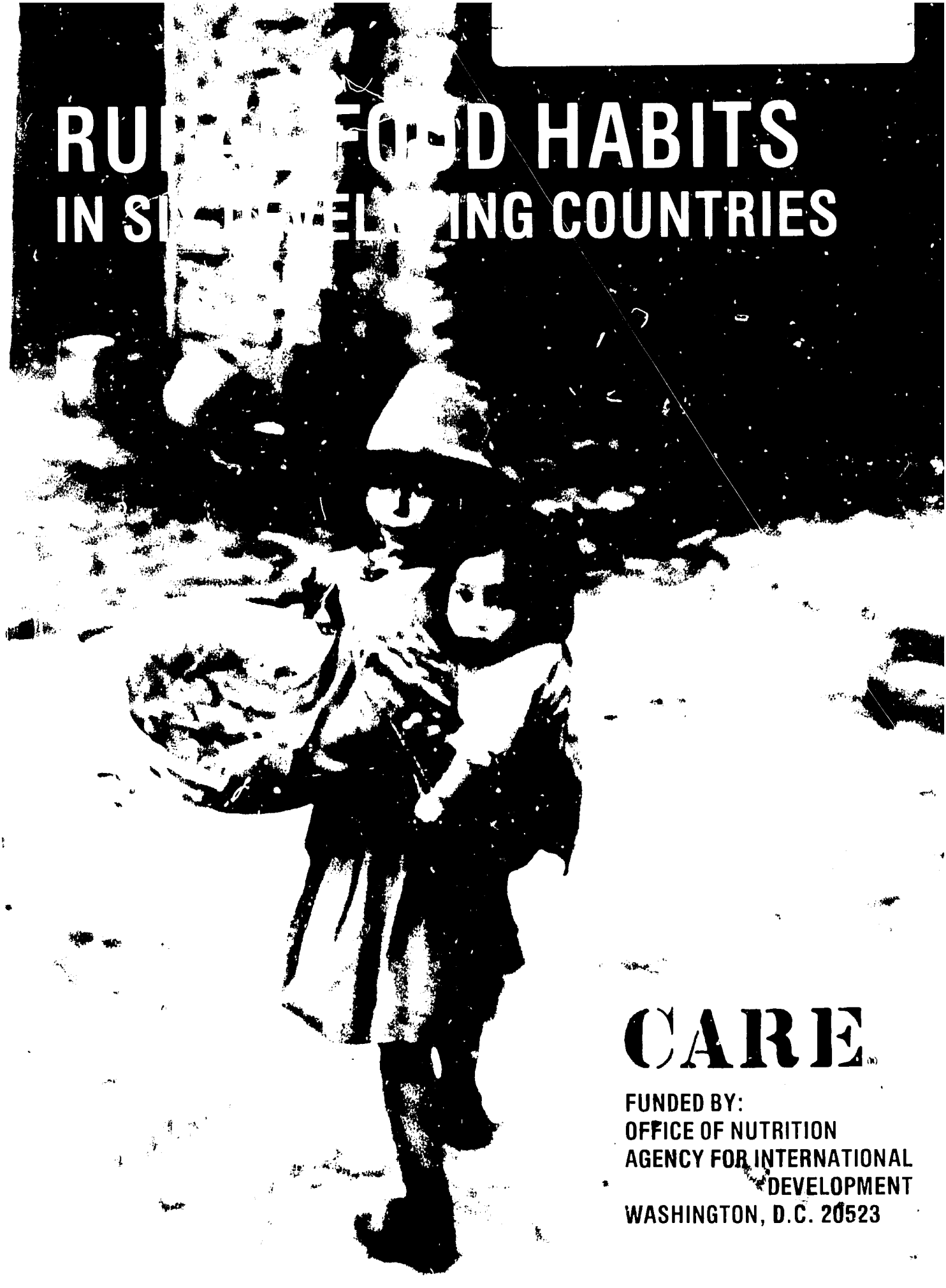
RU[illegible] FO[illegible]D HABITS
IN S[illegible]EL[illegible]ING COUNTRIES



RURAL FOOD HABITS IN SIX DEVELOPING COUNTRIES BY VEMURY CARE

CARE

FUNDED BY:
OFFICE OF NUTRITION
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PN-AAK-779

RURAL FOOD HABITS

IN SIX DEVELOPING COUNTRIES: A CARE STUDY ON ENVIRONMENTAL, SOCIAL AND CULTURAL INFLUENCE ON FOOD CONSUMPTION PATTERNS

BY MERLYN VEMURY
CARE NUTRITION SPECIALIST

FUNDED BY OFFICE OF NUTRITION
AGENCY FOR INTERNATIONAL
DEVELOPMENT
WASHINGTON, D.C. 20523

NEW YORK
APRIL 1981

All rights reserved. No part of this report should be reproduced in any form by any method of duplication without the written permission of CARE, 660 First Avenue, New York, N.Y. 10016.

The preparation of this book was co-sponsored by the Office of Nutrition, Technical Assistance Branch, Agency for International Development.

ACKNOWLEDGEMENTS

The study on Food Habits and determinants of Beliefs and Practices influencing food consumption was undertaken by CARE in collaboration with six countries. Sincere appreciation is extended to the Ministries, Institutions and Individuals cited below for their support and cooperation in the successful undertaking and completion of the project.

Peru	-Ministry of Health -Dr. Victor Hernandez Perez, Director of the National Institute of Nutrition -Office of Food -Engineer Rodolfo A. Fuentes, Director, Public Relations, National Statistics Institute
Colombia	-Dr. Tomas Uribe, Director of Plan de Alimentacion y Nutricion (PAN) -Dr. Guillermo Hurtado, Chief of Evaluation, PAN -Ms. Maria Christina de Ferro, Director of Education, PAN -Mr. Jaime Quevedo, Head of Impact Evaluation, PAN -Dr. Luis Carlos Gomez, Head of Information System, Ministry of Health -Dr. Fernando Maya, Assistant Director, Nutrition Division, Colombian Institute of Family Welfare (ICBF) -Dr. Jose Abdulio Mora, Head of Nutrition Project and Mental Development, (ICBF) -Dr. Franz Pardo, Head of Investigations, (ICBF)

Guatemala	-Dr. Carlos Tejada, Director of the Institute of Nutrition of Central America and Panama (INCAP) -Lic. Marina Flores, Applied Nutrition Division of INCAP
Tunisia	-Professor Z. Kallel, Director of the National Institute of Nutrition -Ms. Fathia Mezhond, National Institute of Nutrition -Ministry of Foreign Affairs
Jordan	-Ministry of Labor/Department of Social Affairs -Dr. Sa'ad Higazi, University of Jordan -Ms. Magda Ghanna, University of Jordan -Dr. Sami Khoury, USAID/Jordan and University of Jordan -Department of Statistics
Bangladesh	-Ministry of Agriculture -Ministry of Interior and Foreign Affairs -Dr. Alimullah Miyan, Baybasthapan Shangsad Ltd. (BSL)

A project of this magnitude and scope is the result of many talents and efforts. Appreciation and thanks are extended to all the respective CARE in-country staff for their assistance in the successful execution of the project. Special mention must be made of the encouragement and support provided by Mr. F. Merton Cregger, formerly Deputy Executive Director and presently Consultant to CARE; Mr. Ralph Devone, Assistant Executive Director, who provided leadership and with whom extensive discussions were held in planning, implementing and problem solving; and Mr. Raymond Rignall, Director of Program Department, for his support in the completion of the project. Mr. Tom Torres and Ms. Grace Cancemi provided invaluable assistance in the processing and key punching

of questionnaires. Ms. Susan Odell, Special Assistant, kindly provided her editorial expertise in preparing this document.

CARE also wishes to thank Dr. Ellen Messer, Anthropologist, for her short-term consultancy on this study. Special thanks are extended to the survey participants who patiently answered many questions.

This project was made possible by the Office of Nutrition, Agency for International Development (AID), Washington, D.C. 20523. Ms. Carol Adelman, formerly at the Office of Nutrition, and Ms. Hope Sukin, the current Project Manager, have been extremely helpful in constantly providing insights and guidance in its planning and implementation.

FOOD HABITS STUDY TEAM

Merlyn Vemury	Project Director Nutrition Specialist CARE/New York
Howard Levine	Project Assistant CARE/New York
Jana Perskie Kraus	Project Assistant CARE/New York
Claude Colimon-Frankel	Project Assistant CARE/New York

Survey Organizers and Consultants*

PERU

Dale Harrison	Director CARE/Peru
Virginia Ubik	Assistant Director CARE/Peru

COLOMBIA

Neil Huff	Director CARE/Colombia
Richard Mattocks	Field Representative CARE/Colombia
Clara Vargas Concha	Head Nutritionist CARE/Colombia

GUATEMALA

Felix Ashinhurst	Director CARE/Guatemala
Henry Richards	Assistant Director CARE/Guatemala
Elizabeth Barnett	Field Representative CARE/Guatemala

*This list reflects assignments and titles of CARE personnel during the field implementation of the project in 1978.

Lucrecia Selle Sanchez	Nutritionist CARE/Guatemala
Marina Flores	Nutritionist Division of Applied Nutrition INCAP

TUNISIA

Peter Reitz	Director CARE/Tunisia
Tom Zopf	Assistant Director CARE/Tunisia
Judy Whitmore	Project Coordinator CARE/Tunisia
Mounira Abdelhak	Nutritionist CARE/Tunisia

JORDAN

Ralph Montee	Director CARE/Jordan
Linda Evora	Project Coordinator and Nutrition Specialist CARE/Jordan

BANGLADESH

Ronald Burkard	Director CARE/Bangladesh
Rudolph von Bernuth	Assistant Director CARE/Bangladesh
Jameeluddin Ahmed	CARE/Bangladesh
Alimullah Miyan	Project Director Baybasthapana Shangsod Ltd. (BSL)
Mosharraf Hossain	Project Coordinator, BSL
Azad Choudhury	Senior Consultant BSL
Nurul Islam	Senior Consultant, BSL

Survey Investigators

PERU

Marco Antonio Campos	Coordinator CARE/Peru
Ruben Espinoza Ormachea	Area Supervisor CARE/Peru
Jose Moreno Moreno	Area Supervisor CARE/Peru
Carlos Vizcarra Malaga	Area Supervisor CARE/Peru
Carmen Rosa Cordova E.	Nutritionist
Rosa Maria Door Cabezas	Nutritionist Institute of Nutrition
Luz Duenas Alvarez	Nutritionist
Marina Escobar de Martinez	Nutritionist Southeast Health Region Ministry of Health
Viviana Martinez Escobar	Anthropology Major
Maria Elena Merino Ruiz	Nutritionist
Luz Elena Montanez Loayza	Nutritionist
Maria Elena Perez Ramirez	Nutritionist
Lia Sierralta Tineo	Nutritionist
Teresa Valdivia Montero	Nutritionist
Violeta Velarde Roman	Nutritionist Institute of Nutrition
Patricia Vizcarra Caviedes	Student

COLOMBIA

Clara Vargas Concha	Head Nutritionist CARE/Colombia
Rosa Soler de Bernal	Nutritionist CARE/Colombia

Adiela Martinez de Gonzales	Nutritionist CARE/Colombia
Deyanira Pulido de Pfeiffer	Nutritionist CARE/Colombia
Martha Cruz de Riaño	Nutritionist CARE/Colombia
Charis Ivone Diaz	Nutritionist CARE/Colombia
Irma Escobar	Nutritionist CARE/Colombia
Martha Libia Ortiz	Nutritionist CARE/Colombia
Libia Rodriguez	Nutritionist CARE/Colombia
Edith Rodriquez	Nutritionist CARE/Colombia
Luz Angela Torres	Nutritionist CARE/Colombia
Elsa Teresa Vera	Nutritionist CARE/Colombia
Pedro Cicery	Field Officer CARE/Colombia
Ricardo Guzman	Field Officer CARE/Colombia
Fabio Rojas	Field Officer CARE/Colombia
Gustavo Gracia Rubio	Field Officer CARE/Colombia

GUATEMALA

Blanca Lidia Arevalo Molina	Bachiller en Ciencias y Letras
Modesto del Cid	Bachiller en Ciencias y Letras
Roberto Giron Herrera	Bachiller en Ciencias y Letras

Lucia Jaramillo Lopera	Tecnica en Dibujo
Thelma Solares de Juarez	Secretaria Comercial
Florentine Molina Carias	Secretaria Comercial
Jose Angel Paiz Montufar	Bachiller en Ciencias y Letras
Hortencia Genoveva Perez Melendez	Maestra de Educacion para el Hogar
Clara Hortencia Quijivix Tohom	Maestra de Educacion Primaria
Vidalina Ramon Regaldo	Maestra de Educacion para el Hogar
Sandra Wunderlich	Licenciada en Antropologia

TUNISIA

Hassen Mohamed	Field Worker CARE/Tunisia
Bouhalfaya Ridha	Field Worker CARE/Tunisia
Mlle. Ayari Latifa	Investigator
Mlle. Rouatbi Jamila	Investigator
Mlle. Drissi Najet	Investigator
Mlle. Kheriji Dalila	Investigator
Mlle. Ouerghi Latifa	Investigator
Mlle. Beji Houda	Investigator
Mlle. Nouri Mounira	Investigator
Mlle. Djedidi Jamila	Investigator
Mlle. Ayari Monia	Investigator
Mlle. Letaief Idhem	Investigator
Mlle. Bafoum Radhia	Investigator

Mlle. Sahali Sihem	Investigator
Mlle. Ben Salem Souad	Investigator
Mlle. Tounsi Leila	Investigator
Mlle. Sessi Faouzia	Investigator
Ben Salem Mohamed	Dietitian National Institute of Nutrition

JORDAN

Khadijeh Abu-Hagar	Team Leader Department of Social Affairs Irbid
Tawfiq Matarneh	Team Leader Department of Statistics
Marcelle Ayoub	Investigator
Nidal Ayoub	Investigator
Nawal Haddad	Investigator
Souheir Haddad	Investigator
Ghada Hajjawi	Investigator
Frida Safadi	Investigator
Hind Sweidan	Investigator
Nabila Tamin	Investigator
Samia Quais	Investigator

BANGLADESH

Mustak Ahmed	Team Leader
Shahjahan Mia	Team Leader
Jahangir Alam Mozamdur	Team Leader
Sarder Md. Shahjan	Team Leader
Lokman Hakim	Investigator

Mir Muhammad Miron	Investigator
Easin Aziz Muttaqi	Investigator
Serajul Islam	Investigator
Kawsar Parveen	Investigator
Gulshan Afroz	Investigator
Hossneara Begum	Investigator
Shirin Hossain	Investigator
Umme Sazeda	Investigator
Shamsunnahar Begum	Investigator
Anowara Begum	Investigator
Firoza Begum	Investigator
Masuda Akhter Choudhury	Investigator
Salena Begum	Investigator
Halima Akhtari	Investigator
Rebaka Sultana	Investigator
Jagabandhu Basak	Coder
Anwar Hossain	Coder
Alfazuddin	Coder
Mohammad Ali	Coder

Secretarial Assistance

PERU

Luz Maria Aramburu	CARE/Peru
Roxana Labarthe	CARE/Peru
Susy Patricia Umpire	CARE/Peru
Pepita Villamonte	CARE/Peru

COLOMBIA

Martha Lucia de Arenas	CARE/Colombia
Beatriz de Calderon	CARE/Colombia
Llva de Castro	CARE/Colombia
Rosario Zabarain	CARF/Colombia

GUATEMALA

Ruth Rivera de Arrue	CARE/Guatemala
Irma Leticia Vasquez	CARE/Guatemala

TUNISIA

Ouardani Ridha	CARE/Tunisia
Tounsi Anouar	CARE/Tunisia
Torkhani Hedi	Typist

JORDAN

Mary Bassil	CARE/Jordan
Maha El Farr	CARE/Jordan

NEW YORK

Annette Dillon	CARE/New York
Felicia Martino	CARE/New York
Floretta O'Brien	CARE/New York

Translation

TUNISIA

Zaiane Mohamed	Translator

JORDAN

Najwa Spratley	Nutrition/Health Educator CARE/Jordan

Statistical Analysis

Sharon Liu	Biostatistician New York
Joseph Lyons	Statistician Columbia University, New York
Shanta Madhavan	Biostatistician Columbia University, New York
Timothy Wendt	Statistician Columbia University, New York

FOREWORD

Malnutrition in mothers and young children is the main public health problem in the field of nutrition in the world. These are the primary vulnerable groups as regards to their physiological needs, cultural practices and lack of immunity to infections.

Their plight is made worse, very frequently, by some food habits which may tend to restrict the already limited availability of more nutritious indigenous food in their diet. For this reason in particular, the present study in six countries is extremely important. There is a great need for research on food habits in different communities in various parts of the world. These vary greatly, but at the same time often show a common theme running though some different-seeming cultures.

Also, there is much need for field research into food habits, as it becomes increasingly apparent that no culture -- very much including so-called Westernized cultures, has a monopoly of dietary wisdom. All cultures seem to have practices which are beneficial from a nutritional and scientific point of view, and others which are harmful.

The present study is important in highlighting some of the practices which are beneficial - on which health and nutrition education in the community can most usefully be based. At the

same time, it also demonstrated and describes very clearly customs which are harmful and disadvantageous. These include, for example, purging young infants, and also the extraordinary practice of non-use of colostrum in early childhood. This seems to be quite widespread in different parts of the world and is probably the most curious custom in terms of its widespreadness, its apparent lack of functional or scientific logic and, indeed, its practical harmfulness.

Lastly, efforts to obtain information on food habits are of critical significance but very difficult to undertake. The present publication is particularly interesting in that it highlights the advantages, and yet the inherent difficulties, in using "community influentials" as informants in such studies.

In summary, this publication is valuable and important as it focuses on the food habits of the most vulnerable members of the family, draws attention to common themes, highlights beneficial and harmful practices, and suggests methods of obtaining such information.

Derrick B. Jelliffe
Professor of Public Health &
Pediatrics
Head, Division of Population, Family,
and International Health
School of Public Health
University of California, Los Angeles

PREFACE

CARE has long recognized the need to obtain reliable data on the ecological, social and cultural factors that affect food behavior for developing sound nutrition intervention programs. Over the last few years, CARE's involvement in nutrition has been expanding to incorporate a broader range of nutrition interventions. However, without reliable data on existing food habits and practices, it is difficult to have relevant nutrition/health programming.

This study on environmental, social and cultural factors that affect food consumption patterns, was designed and carried out by CARE headquarters and CARE country offices. CARE Nutrition Specialist, Dr. Merlyn Vemury, directed the project which was funded by the Office of Nutrition, Agency for International Development/Washington. The project was implemented in collaboration with various ministries and institutes in the six countries. The study was especially geared to obtain vital food habits information about infants and preschoolers, and pregnant and nursing women, together with their socio-economic profile.

It is our hope that the information and insights acquired from this study will be utilized in the creation and implementation of successful nutrition/health and food aid programs. As an organization, we are proud to have participated in this work.

New York
February, 1981

Dr. Philip Johnston
Executive Director

TABLE OF CONTENTS

		PAGE
	ACKNOWLEDGEMENTS	ii
	FOOD HABITS STUDY TEAM	v
	FOREWORD BY DR. DERRICK B. JELLIFFE	xiv
	PREFACE BY DR. PHILIP JOHNSTON	xvi
	OBJECTIVES, CONCLUSIONS AND RECOMMENDATIONS	1
I.	INTRODUCTION	29
II.	METHODOLOGY	34
	A) Sample Size	34
	B) Sample Selection	37
	C) Survey Instrument	41
	D) Personnel	41
	E) Training	42
	F) Supervision of Data Collection, Questionnaire Clean-up and Subsequent Computer Analysis	42
	G) Time and Budget Constraints	42
III.	RESULTS AND DISCUSSION	43
	A) Socio-Economic Characteristics of Mothers	43
	B) Socio-Economic Characteristics of Community Influentials	51
	C) Food Consumption	52
	D) Food Getting, Purchasing, Cooking and Storage Practices	67
	E) Food Behavior Patterns	75
	F) Food Classification System	83
	G) Beneficial and Harmful Foods	88
	H) Special Dietary Practices of Vulnerable Groups	91
	1) Puberty and Menstruation	91
	2) Pregnancy	97
	3) Post Partum	104
	4) Lactation	109
	5) Infants and Preschoolers	115

TABLE OF CONTENTS (Cont'd.)

		PAGE
IV.	COMPARISON OF RESPONSES BY THE MOTHERS AND THE COMMUNITY INFLUENTIALS	143
V.	REFERENCES	147
VI.	APPENDICES	149
VII.	GLOSSARY	194

LIST OF TABLES

TABLE		PAGE
I	SIZE AND DISTRIBUTION OF SAMPLE SITES IN THE FOOD HABITS STUDY IN RURAL PERU, COLOMBIA, GUATEMALA, TUNISIA, JORDAN, BANGLADESH	34
II-1	AGE OF PARTICIPANTS IN THE SURVEY	43
II-2	TYPE OF RESPONDENT PARTICIPATING IN THE SURVEY	44
II-3	RELIGIONS OBSERVED BY PARTICIPANTS IN THE SURVEY	45
II-4	ETHNIC BACKGROUND OF PARTICIPANTS IN THE SURVEY	45
II-5	LITERACY LEVEL OF PARTICIPANTS IN THE SURVEY	46
II-6	OCCUPATION OF PARTICIPANTS IN THE SURVEY	47
II-7	SANITATION FACILITIES AVAILABLE TO PARTICIPANTS IN THE SURVEY	48
II-8	HOUSEHOLD SIZE OF PARTICIPANTS IN THE SURVEY	49
II-9	PREGNANCY HISTORY OF PARTICIPANTS IN THE SURVEY	50
II-10	PERCENTAGE OF HOUSEHOLDS WITH PRESCHOOL CHILD DEATHS	51
III	SOCIO-ECONOMIC CHARACTERISTICS OF SAMPLED COMMUNITY INFLUENTIALS	51
IV-1	CONSUMPTION OF CEREAL GRAINS	53
IV-2	CONSUMPTION OF STARCHY ROOTS AND VEGETABLES	55
IV-3	CONSUMPTION OF ANIMAL FOODS	57
IV-4	CONSUMPTION OF LEGUMES	59
IV-5	CONSUMPTION OF OTHER VEGETABLES	61
IV-6	CONSUMPTION OF FRUITS	63
IV-7	CONSUMPTION OF FATS AND OILS	65
IV-8	CONSUMPTION OF BEVERAGES	66

LIST OF TABLES (Cont'd.)

TABLE		PA
V-1	FOOD PRODUCTION PRACTICES IN RURAL HOUSEHOLDS	
V-2	FOOD PURCHASING PRACTICES IN RURAL HOUSEHOLDS	
V-3	COOKING PRACTICES IN RURAL HOUSEHOLDS	70-
V-4	BREAD PREPARATION AND WATER BOILING	
V-5	FOOD STORAGE PRACTICES IN RURAL HOUSEHOLDS	
VI-1	GENERAL EATING PATTERNS AND FOOD CONSUMPTION IN RURAL HOUSEHOLDS EXPRESSED IN PERCENTAGES	
VI-2	GENERAL FOOD PREFERENCES AND PRIORITIES GIVEN TO HOUSEHOLD MEMBERS EXPRESSED IN PERCENTAGES	
VI-3	GENERAL FOOD AVOIDANCES BY RURAL HOUSEHOLDS EXPRESSED IN PERCENTAGES	
VI-4	VULNERABLE GROUPS EXEMPT FROM RESTRICTIONS	
VII-1	FOOD CLASSIFICATIONS OBSERVED BY MOTHERS EXPRESSED IN PERCENTAGES	
VII-2	EXAMPLES OF HOT/COLD/STRONG/WEAK FOODS MENTIONED BY MOTHERS	
VII-3	OTHER FOOD CLASSIFICATIONS OBSERVED BY COMMUNITY INFLUENTIALS, RANKED BY PREVALENCE	
VIII	FOODS CONSIDERED BENEFICIAL OR HARMFUL FOR THE FAMILY EXPRESSED IN NUMBER OF TIMES MENTIONED	89-
IX-1	FOODS CONSIDERED BENEFICIAL/HARMFUL TO YOUNG GIRLS BEFORE FIRST MENSTRUATION EXPRESSED IN NUMBER OF TIMES MENTIONED	
IX-2	FOODS CONSIDERED BENEFICIAL/HARMFUL TO YOUNG GIRLS AT PUBERTY EXPRESSED IN NUMBER OF TIMES MENTIONED	
IX-3	FOODS CONSIDERED BENEFICIAL/HARMFUL TO YOUNG GIRLS DURING SUBSEQUENT MENSTRUATION EXPRESSED IN NUMBER OF TIMES MENTIONED	

LIST OF TABLES (Cont'd.)

TABLE		PAGE
X-1	DIET DURING PREGNANCY	98
X-2	DIET DURING ILLNESS OF THE EXPECTANT MOTHER	99
XI	FOODS CONSIDERED BENEFICIAL/HARMFUL DURING PREGNANCY EXPRESSED IN NUMBER OF TIMES MENTIONED	101-102
XII	DIET OF MOTHER AFTER DELIVERY OF BABY	104
XIII	FOODS CONSIDERED BENEFICIAL/HARMFUL FOR POST PARTUM EXPRESSED IN NUMBER OF TIMES MENTIONED	106-107
XIV-1	DIET OF NURSING WOMEN	109
XIV-2	INFLUENCE OF CHILD'S ILLNESS ON NURSING MOTHER'S DIET	110
XIV-3	SOURCE OF INFORMATION FOR PREGNANT AND NURSING WOMEN	111
XV	FOODS CONSIDERED BENEFICIAL/HARMFUL DURING BREAST-FEEDING EXPRESSED IN NUMBER OF TIMES MENTIONED	112-113
XVI-1	NEO-NATAL FEEDING PRACTICES	116
XVI-2	BREAST-FEEDING PRACTICES	118
XVI-3	BREAST-FEEDING PRACTICES WHEN MOTHER OR CHILD IS ILL	120-121
XVI-4	USE OF THE BOTTLE IN INFANT FEEDING	123
XVII	INFANT WEANING PRACTICES	125
XVIII	AGE OF INTRODUCING OTHER FOODS IN THE INFANT'S DIET	126
XIX	FIRST FOODS INTRODUCED TO INFANT	127-128
XX	AGE OF INTRODUCING ADULT FOODS IN THE INFANT'S DIET	130

LIST OF TABLES (Cont'd.)

TABLE		PAGE
XXI	FOODS CONSIDERED BENEFICIAL/HARMFUL FOR CHILDREN AGED 0 - 2 YEARS OF AGE EXPRESSED IN NUMBER OF TIMES MENTIONED	131-132
XXII	CHILD FEEDING PRACTICES	134
XXIII	FOODS CONSIDERED BENEFICIAL/HARMFUL FOR CHILDREN AGED 3 - 6 YEARS EXPRESSED IN NUMBER OF TIMES MENTIONED	136
XXIV	CHILDHOOD HEALTH PRACTICES	137
XXV-1	FOODS GIVEN OR AVOIDED DURING EPISODES OF DIARRHEA/VOMITING	139
XXV-2	FOODS GIVEN OR AVOIDED DURING FEVER	141

LIST OF APPENDICES

APPENDIX		PAGE
A	Location of Sampled Sites in the Food Habits Study by Region and by Department or Governorate or Thana	149
B	Mother's Questionnaire	151
C	Community Influential's Questionnaire	173

OBJECTIVES, CONCLUSIONS AND RECOMMENDATIONS

A rural food habits study was conducted by CARE in six developing countries to obtain concrete information and insights to realistically plan and develop appropriate nutrition intervention programs.

The primary objective of the study was twofold:

1) To investigate existing dietary patterns, beliefs and practices of rural population groups in Peru, Colombia, Guatemala, Tunisia, Jordan and Bangladesh.

2) To obtain in-depth data on food habits and their determinants for the nutritionally "at risk" groups; i.e. infants and preschool children, women of child-bearing age, and pregnant and nursing women.

A secondary objective of the study was to compare community influentials' responses to those of the mothers. This comparison was made to determine whether the community influentials were knowledgeable enough to be primary sources of information for further studies.

The findings reveal food consumption patterns in rural households in Peru, Colombia, Guatemala, Tunisia, Jordan and Bangladesh. Traditional beliefs are found to influence food consumption. Some of these beliefs are beneficial, some

neither beneficial nor harmful. Others should be modified to improve the health of the target population groups.

Principal factors affecting food habits are: 1) social influences; 2) household income and availability of food; 3) household's ability to purchase, cook and store foods; 4) food beliefs; and 5) the life cycle of the individual.

1) SOCIAL INFLUENCES

Food behavior is influenced by the social environment of the individual and family.

a) Exposure of Young Mothers to Nutrition/Health Education:

Some younger mothers in Colombia (30.1%), and Guatemala (19.1%) are exposed to nutrition/health education, whereas there is little or no such exposure in Peru, Tunisia, Jordan and Bangladesh. This signifies that either nutrition education programs are minimal in the latter countries, or they do not reach the rural mothers. Since education programs are expected to support or have a positive influence on food behavior patterns, the findings show the need to develop and disseminate appropriate nutrition/health information to reach the mothers in these countries.

b) The Influential Role of Older Mothers

Few older mothers, in all countries, have been exposed to nutrition/health education. As older mothers and other older women influence young mothers during their pregnancies, nursing and child feeding; a special effort must be

made to sensitize them to the family's nutrition/health needs. They can be used as a resource, or form a valuable network for nutrition/health information, development and flow.

c) Influence of the Spouse

Mothers are the major decision-makers regarding food purchases, except in Bangladesh and Colombia where this role is shared by the husband. However, in most cases, the husband's likes and dislikes are often a deciding factor when the mother decides on what food to buy. Therefore, the husband's opinion is an important factor in food purchasing and may need to be changed. It is often difficult, if not impossible, to get males to attend nutrition/health education primarily geared for females. It may be feasible to identify programs in which males are an attentive audience and incorporate nutrition/health components in these programs. Potential programs can be identified in agricultural assistance, water and sanitation projects, and extension work.

d) Influence of Health Personnel

In all six countries, while health personnel i.e. doctors, nurses and midwives influence young rural mothers, their influence is less than that of other mothers regarding foods to be given or avoided when children are ill. Nevertheless, since their opinions are sought, it is vital that these workers be knowledgeable in nutrition to disseminate this information to the mothers. The influence of the indi-

genous healer is mentioned, particularly in Tunisia, Jordan and Bangladesh. Indigenous healers can make a positive contribution to nutrition/health intervention. They could be given basic training, and this training, together with their own wealth of knowledge, can be a useful resource in these programs.

e) Ethnic and Religious Influences

The ethnic and religious background of rural mothers varies by country, some countries being more homogenous than others. For example, the Arabs in Jordan and Tunisia primarily follow Islamic teachings. Nutrition intervention programs, such as nutrition education or nutrition supplementation, must fit in with the ethnic and religious background of the people for whom they are intended. The predominant Christian (Roman Catholic) faith practised in the three Latin American countries does not appear to curtail diet, except restricting food for a day, or meat on certain days. These restrictions are not observed either frequently or for long enough durations to have a significant impact on health. Islam, the predominant faith practised in Tunisia, Jordan and Bangladesh, does not have overriding religious dictates concerning food, except for the prohibition of pork. Fasting during daylight hours is practised during Ramadan, but food is consumed before sunrise and after sunset. Therefore, the total food consumed per day may not be affected and

may, in fact, exceed normal levels. In some households in these countries, pregnant and nursing women, and young children, are exempted from these restrictions. This exemption should be stressed particularly for pregnant and nursing women, and young children, during the month of Ramadan in Tunisia, Jordan and Bangladesh, since omitting foods for long hours can be extremely stressful.

f) Literacy Level of Mothers

The literacy and education levels of rural mothers influence the type and content of nutrition/health education information disseminated. For example, in Tunisia, Jordan and Bangladesh where literacy levels are comparatively low, communication may be limited to being interpersonal discussions and pictorial, or audio visual presentations to enable messages to be effectively understood.

g) Household's Access to a Radio

A large number of households in Colombia, Guatemala and Tunisia have access to a radio. This can be used as an effective channel for mass media nutrition/health education programs. In Peru and Bangladesh, where few households have access to a radio, it would not be a viable means of communication.

h) Occupational Influences

In the six countries studied, most of the rural mothers are primarily engaged in housework. However, those

mothers who are engaged in work outside the home have limited time to spend on child care and child feeding. As a result, caring for the child is left to an older sibling, a grandmother, or other relatives or women. The use of these mother surrogates in child care underlines the importance of including them in the educational process.

A small number of mothers gave work as a reason for weaning the child from the breast. This number may increase in the future due to the increasing need for the mother to work outside the home in order to supplement the family income. The mother's milk is very critical for an infant, especially if there is little money to purchase an adequate milk substitute. The income from the mother's work outside the home must be weighed against the probability that the child may develop nutrition/health problems. If the mother must work away from home, provision must be made for child care such as the establishment of daycare centers. In Bangladesh, although the mother is at home, the grandmother or older sibling may take care of the child because the mother is occupied with housework, again stressing the need to include these groups in nutrition education programs.

i) Age and Sex Influences

Eating patterns are age- and sex-linked, particularly in Tunisia and Bangladesh. Older males usually eat first and receive the choicest portion of the meal, primarily foods of

animal origin. In rural households in Tunisia and Jordan, since food is shared from a common pot, adults have a greater advantage in competing for the family meal, the males being at a greater advantage than females. The survey findings show that priority is not given to pregnant and nursing women in the majority of the households. Preference given to young children is even less evident. A sensitivity to the food needs of young children and pregnant and nursing women is important in intra-family food distribution. Young children, as opposed to adults, should be given concentrated sources of proteins and calories, since they cannot consume bulky food in sufficient quantities to ensure adequate nutrient intake.

j) Influence of Family Size and Child Spacing

Rural household sizes are large in each of these countries, particularly in Colombia, Tunisia, Jordan and Bangladesh. Generally, the larger the household size, the poorer the diet of the individual household members. These households usually have two or three children under six years of age. The presence of several young children makes each child prone to malnutrition. This signifies the importance of including family life education and encouraging child spacing in nutrition intervention programs.

k) Influence of Pregnancy Wastages and Early Child Deaths

Early pregnancies (as in Bangladesh and Jordan),

large numbers of total pregnancies per mother, (especially in Jordan and Colombia) and pregnancy wastages (as in Jordan and Tunisia) are particularly significant. A large number of households have a preschool age child death in the family; some families experience more than one death. Young girls, pregnant as early as 13 or 14 years, as in Jordan and Bangladesh, not only have their own higher nutritional needs for growth, but also carry the burden of the nutritional needs for the growth of the fetus. These early pregnancies and death rates only further stress the need for provision of basic health services, child spacing and family life education in order to ensure healthy pregnancies, and enable the mother to care for the young child.

1) Sanitation Facilities Available

Sanitation facilities range from moderate to poor in the rural areas of all six countries. Poor methods of human waste disposal and inadequate quality and quantity of water have been related to the spread of infection. The need for development in this area, along with nutrition interventions, is crucial to the good health and nutritional status of rural households.

2) HOUSEHOLD INCOME AND AVAILABILITY OF FOOD

a) Income Generating Activities

The income level of the household plays a major role on typesof foods consumed in all the six countries.

Activities should be developed to increase family income, such as those which generate rural employment and those which introduce new technologies to raise household productivity. Increased income, or increased food production, does not necessarily mean the family will consume a better quality diet. Other factors such as advertisements of foods marketed are influential in decision-making. Therefore, it is important to incorporate nutrition education and consumer education along with income generating activities.

b) Consumption of Mixed Diets

Rural households generally consume what is available locally. In keeping with this rationale, most of the foods consumed are cereals, starchy roots or tubers, and legumes. However, it should not be concluded that this diet is inadequate. For example, rice and beans in Colombia provide an excellent source of both calories and proteins. The protein in beans, although limited in certain amino acids, complements the protein in rice, and vice versa. Therefore, existing foods in these countries, used in proper combinations, together with vegetables and fruits, can provide nutritious meals for the family.

c) Meal Planning and Development of Home Gardens

It was found that the consumption of vegetables and fruits is limited in all six countries. In nutrition intervention programs, emphasis must be given to incorporating these foods more frequently in the diet. Dried fruits, which are a

good source of iron, are consumed in Tunisia and Jordan. This practice should be further encouraged. Seasonality and cost are important determinants in the consumption of vegetables and fruits. Education programs on meal planning should recommend the incorporation of seasonal vegetables and fruits into the family meal, since they are usually less expensive to purchase. Vegetable gardening should be encouraged even if very little land is available near the house. The climate and terrain should be kept in mind. In sandy desert conditions, like parts of Jordan and Tunisia, hardy plants that can survive the harsh environmental conditions should be recommended. Seeds and planting materials should be made available to follow through with the recommendations in home gardening. It would be advantageous to suggest easy to grow vegetables initially, to demonstrate the concept and success of home gardens.

d) Seasonality and Home Food Preservation

Food preservation programs which encourage the use of seasonal crops during off season can be developed at the rural home or community level. This is evidenced in countries like Colombia, which has an abundance of seasonal fruits and vegetables. Preservation of food not only avoids wastage of foods due to spoilage, but also provides the much needed vitamins and minerals necessary in the diet throughout the year. Demonstrations can be given on simple home methods for preser-

vation, given the local limitations of fuel and utensils. Food preservation can also be a potential income generating activity, since excess preserved foods can be sold to supplement the household food budget.

e) Animal Sources of Foods Consumed

Animal sources of foods, although preferred by rural households, are expensive in all six countries. Their consumption depends on the economic level of the household. However, in Tunisia and Jordan, foods such as homemade cheese and yogurt, i.e. leban and lebaneh, are common to the diet. Sensitizing rural mothers to the important contribution of these foods in the family diet would help support their continued or even greater consumption.

Milk, chickens and eggs, though produced in very small quantities, are usually sold to produce income for the household. Programs that enable rural households to raise food, such as chicken and eggs, should be encouraged as both income generating and improving the diet. Setting aside a portion of these foods for the very young child must be encouraged because of his/her need for concentrated sources of protein. Although money derived from selling these foods may go to purchase greater quantities of less expensive foods for the family, it is necessary to emphasize that these foods be nutritious.

f) Consumption of Soft Drinks and Alcohol

Beverages which are primarily consumed are coffee or tea. Soft drinks and alcoholic beverages are consumed to some degree in these countries. Although the extent of their consumption, and monies spent on their purchase, were not studied, it is presumed these drinks are more expensive to purchase. Monies spent on these items must be determined in order to redirect their investment to more nutritious foods for the entire family.

g) Home Food Production and Prevention of Food Loss

Rural households in all six countries, except Jordan, produce a significant amount of family food. Methods by which this food production can be enhanced must be investigated. Agricultural assistance programs for small farmers can contribute to decreasing nutrition/consumption problems in these countries. Introducing appropriate cropping patterns, more hardy seed varieties, methods to prevent or manage insect or rodent damage, reducing loss of crops in the field and during storage, and disseminating information on nutrient content of various crops to aid farmers' decision-making on what foods to grow, are all important aspects of providing agricultural assistance.

h) Crop Diversification

Small farmers tend to produce the staple crop; e.g., maize in Guatemala or rice in Bangladesh. These foods then tend to make up the entire diet. Crop diversification must be encouraged. The greater the variety of foods available, the better the chances for the household to have a good mixed diet.

3) HOUSEHOLD'S ABILITY TO PURCHASE, COOK AND STORE FOODS

a) Food Selection

Although the majority of households in all countries, except Jordan, produce most of their food for consumption, they supplement their food needs through purchases from the local market. These purchases are made on a weekly basis, except in Jordan and Bangladesh where they occur more frequently. A food's nutritive value does not necessarily ensure its purchase, rather it is its cost, familiarity and taste appeal, which affect purchase. Therefore, if money is to be invested in a food purchase, the mother must be knowledgeable about what foods are more nutritious than others for a given amount of money, what are good buys, and the importance of providing variety in the meal for a more adequate diet. Although the mother decides on food purchases for the family, in Jordan the husband or male member of the family purchases the food from the market. Hence, as mentioned earlier, the need to have education programs that can reach the male population group is underscored.

b) Cooking Practices

The type of foods cooked and the number of times food is cooked per day is influenced by the cost and availability of cooking fuel. In countries like Jordan, food is cooked once a day and kept for the next meal. This study did not attempt to investigate the different methods of food preparation and cooking in these countries. However, it must be stressed that the

proper method of food preparation and cooking must be encouraged in order to prevent nutrient loss. This is an important factor since the cost of nutrients rises when there is nutrient loss in food preparation. In making recommendations concerning food preparation and cooking, one should keep in mind the facilities available in the rural home to carry out these functions.

c) Storage Practices

The majority of households in all countries store dry grains for home consumption. Perishable foods, such as vegetables or cooked food, are stored less frequently. Since the storage facilities available are mainly in the form of pottery, sacks, baskets, boxes, etc., most households purchase their perishables once a week, except in Jordan and Bangladesh where purchases are more frequent. Sanitary methods of food storage, given the limitations of storage facilities, must be investigated, both from the perspective of food loss due to spoilage, and nutrient loss due to improper storage.

4) FOOD BELIEFS

Food behavior is influenced by individual beliefs, attitudes and values about food.

a) "Beneficial" Qualities Perceived in Foods

The concept that certain foods are "good" or "beneficial", or others are "harmful" is used as a basis for determining food choice. This basis is not only used in household meal practices, but also in the food consumption of specific individuals within

the household, such as pregnant women. Foods that may be considered "beneficial" for the household may not necessarily be considered "beneficial" for a particular individual within the household. The reason for these differences, such as their influence on health, must be clearly understood before making recommendations. The idea that certain foods have more "beneficial" qualities than others can be used to support that certain foods have more nutrients than others. This can be used as a starting point in the education process to convey information on planning nutritious meals.

b) "Hot"/"Cold" or "Strong"/"Weak" Food Beliefs

These food beliefs are prevalent in five of the six countries studied. "Hot"/"cold" beliefs are primarily prevalent in Latin American countries and Bangladesh, and "strong"/"weak" beliefs are prevalent in Jordan and Tunisia. "Hot"/"cold", "strong"/"weak" are intrinsic qualities ascribed to food. In Colombia, although some mothers acknowledged awareness of the "hot"/"cold" beliefs, they are not widely practised. The existence and extent to which these food beliefs influence food consumption patterns should be considered in nutrition intervention programs. A careful examination of foods in these groups, and their actual and perceived effects on health is necessary. Capitalizing on these concepts to modify food practices that are harmful can be fruitful in countries where food beliefs have an influential role.

c) "Medicinal" Qualities Ascribed to Food

Certain Foods which are associated with "medicinal" or "healing" qualities are given when one is ill. For example, in all six countries, liquids such as broths or teas/infusions are generally promoted along with rice/cereal preparations when the child has diarrhea, because they make the child feel better, or stop diarrhea. Milk and milk products are usually withdrawn by mothers during diarrhea because of the belief that they aggravate the condition. It should be recommended that feeding the child during diarrhea is necessary, because of the child's increased nutrient needs. It is particularly important to give fluids to prevent the child from becoming dehydrated. Starchy cereals, such as rice, can help in passing "more formed" stools. Even if milk and milk products are cut down, (since a child with diarrhea has less lactase activity and milk products can aggravate the condition), it is highly recommended that nursing be continued if the child is still on the breast.

d) Prestige Value Ascribed to Food

Foods considered prestigious, usually because they are expensive and appealing to the taste, are preferred by mothers in all six countries. These foods are usually of animal origin, such as milk, meat and eggs, which because of their cost limits their consumption. Foods such as leafy green vegetables usually have a low prestige value. Educators should be sensitive to the perceived prestige value of these foods. They should try

to use prestigious occasions and/or identify important persons who can give status to the common but nutritious and inexpensive foods.

e) Other Perceived Food Qualities

Other perceived qualities ascribed to food are "strength giving", "blood giving", "gas producing", "digestable", "sweet and sour", and "wet and dry" concepts. The degree to which these are followed is limited. However, it is important for nutrition/health workers to be aware of these concepts in planning nutrition interventions, and study them closely to see if these concepts can be used to full advantage.

5) LIFE CYCLE OF THE INDIVIDUAL

Women of child-bearing age, pregnant and nursing women, and very young children are most affected by food restrictions. These restrictions are for the most part linked with food beliefs.

a) Pregnancy

i) Rural mothers in all six countries generally believe that following certain food regulations during pregnancy will promote the health of the fetus. Despite this belief, in Tunisia, Jordan, Bangladesh and Peru, the majority of mothers believe a women should eat less than normal when pregnant. Most of the remaining mothers believe a normal diet is sufficient. Normal, in this context, is defined as the usual amount of food

eaten by the mother, which is probably insufficient in nutrients. To counteract the harmful effect of this practice, the mother and other household members need to be made aware of the increased need for nutrients during pregnancy and convinced of the long-term benefits of making dietary allowances for the pregnant women.

ii) In all six countries, pregnant women reduce their food intake when they become ill. In Tunisia, a sizeable number of mothers reported not consuming any food when ill. Mothers must be convinced that further cutting back on food when ill during pregnancy causes a greater deficiency in nutrient intake and affects the health of both the mother and the unborn child.

iii) Food beliefs that certain foods are "beneficial" or "good", and others are "harmful", exist for pregnant women. Most of the "beneficial" foods are of animal origin, which because of their high cost limits consumption. Other foods are considered "good" because of their "hot"/"cold" qualities, "strengthening" or "health-giving" qualities. The concept of positive qualities attributed to food can be used to advocate a nutritious diet during pregnancy, using locally available but highly nutritious and inexpensive food.

b) Post Partum

i) The practice of withholding foods from a mother after child birth exists to varying degrees in all six countries. Food withheld for several hours is not particularly harmful. If

the mother is not given any food for a long period, it can be stressful, particularly as she requires the nutrients to recuperate, and for milk production.

ii) As in pregnancy, certain foods are considered especially "good" or "beneficial" to the mother after child birth. These foods are primarily from animal sources and are consumed minimally because of their cost. Other examples of beneficial foods include potatoes in Peru and Bangladesh, and soup and broth in the three Latin American countries. The concept of beneficial foods can be used to recommend consumption of available and affordable nutritious foods Broths and soups should be encouraged for consumption since fluid intake assists in milk production. Some foods are avoided because they cause indigestion. In Bangladesh a variety of animal sources of food and certain types of fish are omitted because of their "hot"/"cold" qualities. The findings show that despite the belief that certain foods are "harmful", some mothers still consume them because they are not convinced of their harmful effects, or they are the only foods available. Encouragement of practices which incorporate nutritious foods thought to be "harmful" is possible, given the lack of adherence to the belief. Education programs should take post partum vulnerability as a focal point to make recommendations. Mothers must be convinced that rest, psychological readiness to breast-feed, and nutritious meals, will enhance milk flow and maximize family well-being, since the mother's contribution to the household is diminished by either her or the infant's

illness.

c) Lactation

Dietary beliefs and practices followed by mothers during lactation in all six countries are concerned with increasing the mother's milk. This concern should be the central theme in advocating changes in the nursing woman's diet.

i) In keeping with this concern a large number of mothers believe a nursing woman should consume more food to enable her to nurse adequately. This positive knowledge should be reinforced and encouraged to be practised more widely. On the other hand, there are a sizeable number of mothers in all countries, particularly in Peru, Colombia, Guatemala and Jordan, who believe normal food intake is sufficient. As mentioned earlier, rural mothers' normal food intake may in itself be inadequate and the added need for nutrients while nursing will only be a drain on her own body nutrients. Therefore, mothers, as well as other household members, must be more aware of the increased nutrient needs for nursing and make dietary allowances for the nursing woman.

ii) Mothers believe a nursing woman's milk is altered by her diet, because when the infant is ill certain foods are avoided in the mother's diet to prevent aggravating the illness. Likewise, certain other foods are recommended because of their "beneficial" qualities, which are believed to be trans-

mitted to the infant via the breast milk. The awareness that diet affects the milk produced, and therefore influences the health of the infant, can be used to emphasize the need of the mother to consume more nutritious food. A larger number of foods are attributed "beneficial" than "harmful" qualities, therefore not limiting excessively the variety of foods that can be consumed during nursing. However, as in pregnancy and post partum, the foods considered most "beneficial" are from animal sources which are not within the economic means of the family. This requires promotion of other inexpensive but nutritious sources of food which can be consumed in larger quantities. As in post partum, some mothers consume foods believed to be "harmful" because they are either not convinced of their harmful effects, or they are the only foods available. This practice shows that this belief during lactation is not strongly imbibed, making it possible for it to be changed if necessary.

d) Infants and Preschoolers

i) The practice of introducing foods such as infusions/herbal teas, sugar water, olive and cottonseed oils, honey, s'men and butter, within a few hours after birth is prevalent, particularly in Jordan, Bangladesh, Guatemala and Colombia. These foods are given by a cloth, nipple or finger-tip on which the infant sucks. They are primarily introduced for their laxative qualities, to help the infant pass

the meconium, prepare the infant's stomach for maternal milk, or because it is a customary practice in the household. Some mothers in Jordan believe these foods are given because the mother's milk has not yet started. If these foods or the receptacles in which they are given are unsanitary, the danger of causing infection, at this early stage of life, is intensified. The possibility of the infant choking also exists. Therefore, the mothers and other household members assisting the mother must be made aware of these potential dangers and take necessary precautions.

ii) A large number of mothers do not believe the infant should be nursed immediately after birth, thus decreasing the infant's intake of colostrum. Nutrition intervention programs should encourage the new mother to suckle the newborn for colostrum intake, which is nutritious and protects the child from infection. Mothers must also be advised of advantages to early nursing which help to develop the infant's sucking reflex, and stimulate the mother's milk flow. Since the health and survival of the infant is the primary concern in infant feeding practices, it is important for nutrition programs to relate and demonstrate to mothers that early suckling enhances the health and nutritional well-being of the infant.

iii) Breast-feeding is an almost universal practice among the rural mothers in the six countries surveyed. The duration of nursing, however, varies by country. The length of

nursing is longer in the Muslim countries of Bangladesh, Tunisia and Jordan, presumably in keeping with the Islam teaching that a child should be nursed up to 24 months(1). Nutrition intervention programs should advocate and encourage mothers to nurse as long as possible (along with introducing other foods appropriately) since breast milk is often the major source of nutrients in the infant's diet.

iv) A large number of mothers in all countries believe nursing should be completely stopped when the mother is ill, thus causing sudden weaning of the infant to other foods, usually starchy in nature. Since these starchy foods do not provide adequate nutrients, the child often develops malnutrition. Omitting nursing also initiates the cessation of milk flow. Nutrition intervention programs should recommend continuation of nursing even if the mother is ill. The programs should help mothers distinguish between the rare, risky conditions such as undergoing long-term drug treatment for certain illnesses and normal low risk conditions during which nursing should be continued. If nursing is interrupted briefly because the mother feels too ill, she should manually express the milk to prevent cessation of milk and relieve the discomfort in her breasts. Appropriate alternatives to weaning, such as temporary wet nurses, or hygienic nutritious food preparation and feeding should be suggested.

v) Due to the belief that nursing causes or aggravates an infant's illness, many mothers in all six countries cease or reduce nursing, and substitute other foods that are usually inferior in nutrients or may be unhygienic. These practices may actually result in aggravating the illness, or at least slow the recovery process. Mothers, therefore, must be convinced, through nutrition intervention programs, of the importance of continuing nursing to meet the increased nutrient needs of the infant.

vi) A large number of mothers in all six countries use bottles to give liquids to infants. Some mothers, especially in Guatemala and Colombia, start this practice when the infant is very young. This practice should be discouraged as the bottles are difficult to clean and can cause infection. The use of a cup and spoon should be encouraged instead, as they can be cleaned more easily. The preparation of fluids under hygienic conditions must be stressed. Substituting herbal teas/sugar water or thin gruels for nursing is dangerous. Mothers must be made aware that nursing the infant for four to six months will provide the nutrient needs of the child, and that infants who are breast-fed are generally healthier. Mothers must be persuaded to eat nutritious meals in order to assure good quality and quantity of their milk flow.

vii) Some mothers, particularly in Colombia and Guatemala, give fresh or processed milk (i.e. evaporated,

condensed, dry, formula) to their infants by bottle. Of the mothers who give milk to their infants, there is a tendency to use fresh milk in Colombia, Guatemala and Bangladesh; and processed milk in Tunisia and Jordan. In Peru, mothers give both varieties of milk. The mothers in these countries should be made aware of the cost of feeding animal milk as opposed to nursing. If milk preparations are given, their hygienic preparation and correct formulations should be stressed.

viii) The survey findings show that mothers use either abrupt or gradual methods of weaning for their children. The abrupt removal from the breast can have both physical and psychological implications for the child. The child's refusal to eat the new foods, their lower nutrient content, and/or their preparation under unhygienic conditions can result in malnutrition and infection. It is necessary to gradually wean the child; therefore while nursing other foods should be gradually introduced. The hygienic preparation of these foods should be stressed.

ix) Reasons for weaning a child vary by country. For example, in Peru and Colombia many mothers believe that since the child eats other foods, nursing is not necessary. Mothers in Colombia also cite insufficient milk supply and illness of the mother and/or child as reasons for weaning. A new pregnancy is the predominant reason in Tunisia and Bangladesh for weaning. Also, in these two countries the mother believes

that since the child eats other foods, nursing can be discontinued. Nutrition intervention programs must investigate reasons for early weaning and demonstrate to the mothers their negative effects on the infant. Mothers should be encouraged to nurse the infant as long as possible, together with timely introduction of supplementary foods, and must also be convinced that although the child eats other foods, nursing is necessary to provide sufficient nutrients in the diet.

x) Supplementary foods are introduced at an average age of five or six months in the Latin American countries. However, a closer age analysis shows that a significant number of mothers introduce these foods later than six months. In Tunisia, Jordan and Bangladesh a large number of mothers delay introducing supplementary foods. Through nutrition intervention programs, the mothers should be made aware that milk alone is sufficient to meet the child's needs up to only four to six months. After that it is imperative to supplement the infant's diet with other foods which will supply the increased nutrient requirements for growth.

xi) The nutritional quality of supplementary foods varies in each country. For example, in Peru it is usually starchy, whereas in Colombia it is high in protein. Mothers must be convinced, through nutrition intervention programs, that infants need foods that are concentrated in both calories and proteins. It should also be stressed that these foods be given in

conjunction with nursing and be prepared in a form that is easily acceptable to the infant, e.g. cereal grains as gruels or porridges, and vegetables well cooked and mashed.

xii) Some foods are considered more "beneficial" or "harmful" for the young preschooler than for his older sibling. Identifying low-cost concentrated nutritious foods which can be linked with the "beneficial" concept should be encouraged.

xiii) Purging is common in all countries, except Tunisia where it occurs to a lesser extent. Purging is practised at birth, during fever, diarrhea, constipation, and periodically. Its frequency varies in each country. Purging at birth is most widely practised in Guatemala. During fever purging is frequent in Peru and Bangladesh. Although not a common practice, purging as a cure for diarrhea is most frequent in Guatemala, Peru and Bangladesh. Purging during the critical vulnerable periods is harmful, and the mothers should be educated as to its detrimental, if not life-threatening, effects.

COMPARISON OF RESPONSES BY MOTHERS AND COMMUNITY INFLUENTIALS

A comparison of the mothers' and community influentials' responses shows that community inluentials, in all six countries, can be considered reliable sources of information regarding general patterns of food habits. For in-depth information, community influentials in Peru, Colombia, Tunisia and Jordan

could be effective, with some sacrifice in accuracy of information collected. However, the purpose for which the information is to be used, the scope of work entailed, and time and budget limitations, should determine whether community influentials alone would suffice as sources of information.

I. INTRODUCTION

Custom, tradition, food association and deep-rooted beliefs are forceful determinants of food habits. To date, there is only inadequate and scattered information in this important area, important particularly as it influences the nutrition/health and well-being of infants and preschoolers, women of child-bearing age, and pregnant and nursing women.

Accordingly, in 1978 CARE undertook a six country study in collaboration with the:

- Ministry of Health: Peru
- Plan de Alimentacion y Nutrition (PAN): Colombia
- Institute of Nutrition of Central America and Panama (INCAP): Guatemala
- National Institute of Nutrition: Tunisia
- Ministry of Labor/Department of Social Affairs: Jordan
- Ministry of Agriculture, Ministry of Interior and Foreign Affairs: Bangladesh

The study is designed to acquire a better understanding of the social and cultural beliefs and practices affecting the rural population groups. Country data are collected to reflect national and regional diet patterns within each country, along with food beliefs and food behavior that influence the diet of nutritionally "at risk" groups in the rural population.

Statement of Purpose

The primary purpose of the study is twofold:

1) To make a systematic and thorough investigation of existing dietary patterns beliefs and practices of rural population groups in Peru, Colombia, Guatemala, Tunisia, Jordan and Bangladesh.
2) To obtain concrete in-depth data on food habits and their determinants of the nutritionally "at risk" groups. For purposes of this study, these groups are identified as infants and preschoolers, women of child-bearing age, and pregnant and nursing women.

Rural mothers and rural community influentials are chosen to act as sources of information for the study. The secondary purpose of the survey is to compare community influentials' responses with those of the mothers to verify whether their understanding of significant aspects of their communities' food systems and food behavior pattern would be accurate enough to permit them to be primary sources of information for further studies.

Scope of Work

The scope of work for the study covers a broad range of information. Principally, it includes the type of foods consumed by rural households, why they are consumed, and the cultural rules determining food consumption, both for the household and for the "at risk" groups. Modifications in diet for the latter are particularly identified. The extent to which food restrictions prevail and reasons for their adherence are examined.

The initial step in the project design is a review of existing literature on food habits. Scouring anthropological, nutritional and other social scientific sources, the preliminary review identifies information on food habits when possible. In addition, dietary modifications of "at risk" groups are surveyed. An in-depth analysis of this review is presented in a separate report (1).

Concurrent with the literature review, the food habits survey design proceeded to encompass all the major subjects covered in the literature review, but more completely and systematically. Specifically, the ethnographic data collected established qualitative and quantitative information of the following variable

1) Socio-economic characteristics of the rural population in each of the six countries.
2) Certain key health indicators presented to give a greate understanding of the environment in which the mothers live.
3) Food consumption patterns of rural households, seasonal influences on foods consumed, and frequency of food consumption.
4) Food production, purchasing, cooking and storage practices of rural households.
5) The social role of food-household eating practices, food preferences and restrictions.
6) Determinants of food beliefs and practices - food classification systems, the concept of beneficial and harmful foods.

7) Dietary beliefs and alterations in food patterns of the nutritionally "at risk" groups, i.e. women of child-bearing age, pregnant and nursing women and infants and preschoolers.

Another aspect of the survey is to interview community influentials in addition to mothers, to verify whether the formers' understanding of significant aspects of their food system and food behavior differed from that of the households in the community.

Potential Use of Data Collected

This data can be instrumental:

1) To governments in formulating their food planning and policy-making decisions;
2) To serve as a tool for nutrition planners to sensitize their governments to existing cultural food beliefs and food habits within their countries;
3) To assist institutions and agencies concerned with nutrition/health in formulating their policies and priorities at the national and international levels;
4) To sensitize agencies involved in food aid programs to plan and implement effective food aid programs, given cultural constraints;
5) To assist international and national development agencies in planning, designing and implementing nutrition/health programs with greater cultural relevance;

6) To be a useful resource to the nutrition/health education sectors and the nutrition/health educator. Food habits information, together with the socio-economic data of the target group such as literacy and education level, are determinants for the most appropriate format for education intervention;

7) To assist in identifying priority themes for nutrition education. The socio-economic characteristics of the population group and its food behavior determine the style, mode and content of educational information to be disseminated; and

8) To use the information on major foods consumed and food customs in individual countries (qualitative and quantitative analysis) to indicate where intervention can most effectively impact on the food system.

Study Findings

This document gives a comprehensive overview of the six countries' findings. Individual, in-depth country results are presented in separate reports (2-7).

II. METHODOLOGY

Information for the food habits study was obtained from two groups of respondents: 1) mothers of preschool-age children and older women; and 2) community influentials.

Mothers of preschoolers and older women were the primary sources of information. Community influentials, i.e. respected members of the community, provided the secondary source of information. The responses from the latter group were compared with those of the mothers to determine if significant differences existed between the two groups, and to verify if the community influentials could serve as the sole source of information for future studies.

A) Sample Size

TABLE I presents the size and distribution of the samples selected for the study, and Figure 1 presents the maps of the 6 countries surveyed.

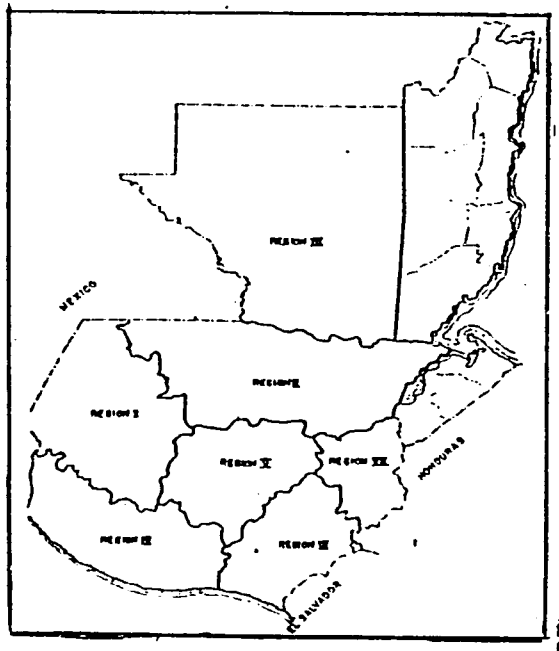
TABLE I SIZE AND DISTRIBUTION OF SAMPLE SITES IN FOOD HABITS STUDY IN RURAL PERU, COLOMBIA, GUATEMALA, TUNISIA, JORDAN, AND BANGLADESH

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Number of Sub-governorates, Districts, Departments	8	9	6	7	9	19
Number of Communities[1]	65	66	40	40	40	70
Total Sample Size:	841	853	520	471	507	910
a) Mother	646	660	400	428	393	700
b) Community Influentials	195	193	120	43	114	210

[1]In Tunisia, the communities include 4 Bedouin groups.

FIGURE 1

BEST AVAILABLE DOCUMENT

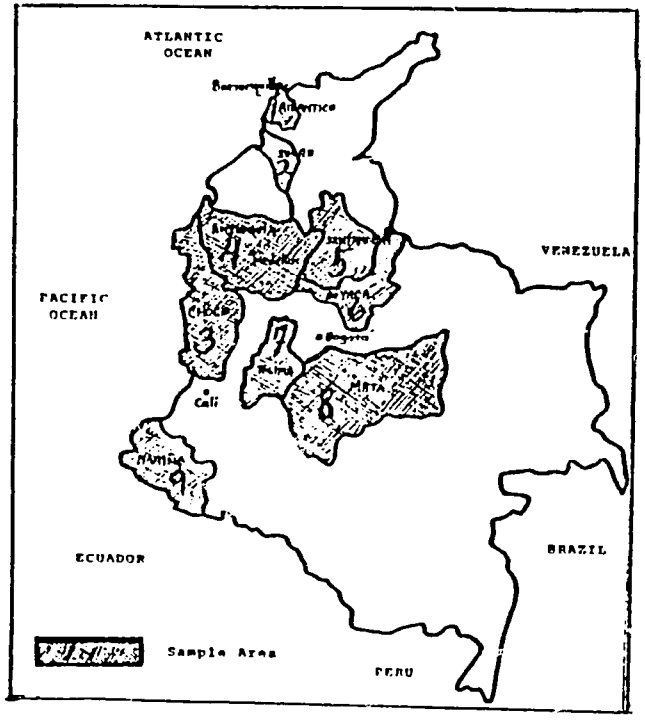


REGIONAL DIVISIONS OF GUATEMALA BY MAJOR AGRICULTURAL PRODUCTION

Divisions

Region I - Coffee
Region II - Corn
Region III - Peten
Region IV - Cotton
Region V - Sugar
Region VI - Rice
Region VII - Beans

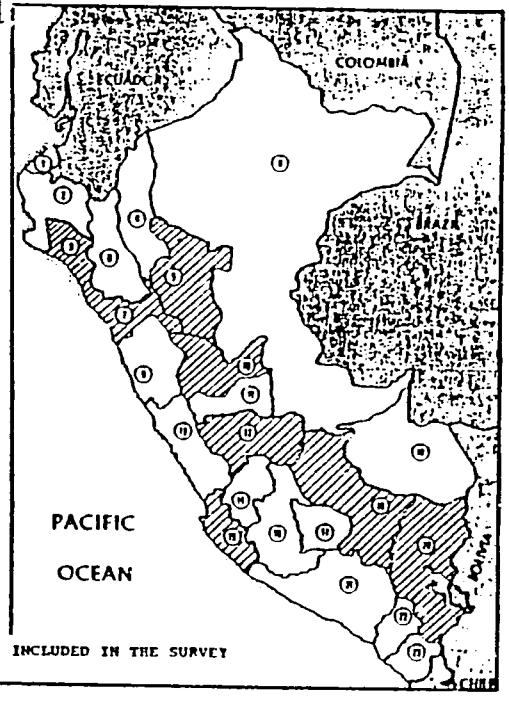
GEOGRAPHIC LOCATION OF SAMPLED AREAS IN THE STUDY - COLOMBIA



Departments

1. Atlantico
2. Sucre
3. Choco
4. Antioquia
5. Santander
6. Boyaca
7. Tolima
8. Meta
9. Nariño

LOCATION OF THE DEPARTMENTS INCLUDED IN THE PERU FOOD HABITS SURVEY

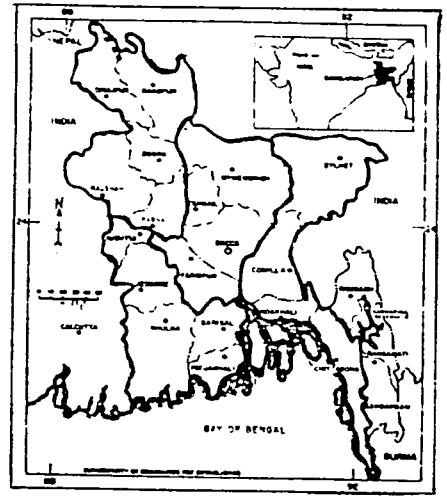


DEPARTMENTS

1 TUMBES
2 PIURA
3 LAMBAYEQUE
4 AMAZONAS
5 SAN MARTIN
6 CAJAMARCA
7 LA LIBERTAD
8 LORETO
9 ANCASH
10 HUANUCO
11 PASCO
12 JUNIN
13 LIMA
14 HUANCAVELICA
15 ICA
16 AYACUCHO
17 APURIMAC
18 CUSCO
19 MADRE DE DIOS
20 PUNO
21 AREQUIPA
22 MOQUEGUA
23 TACNA

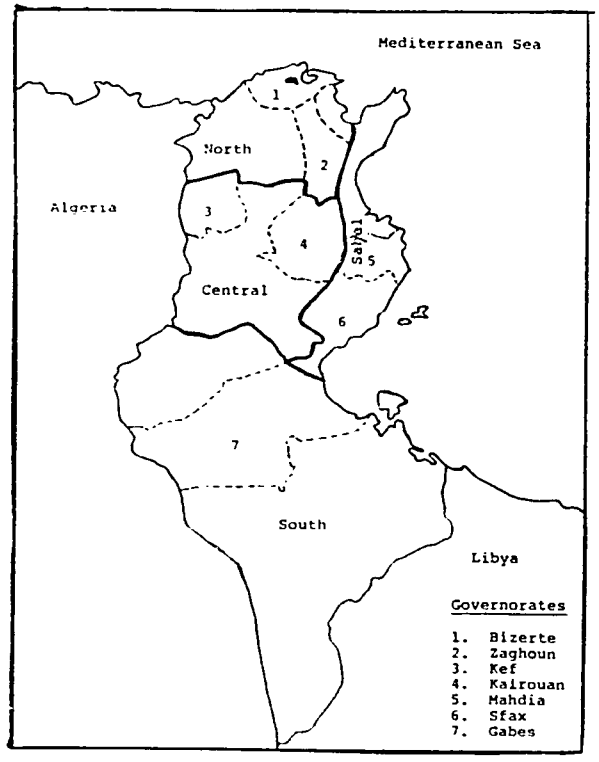
DEPARTMENTS INCLUDED IN THE SURVEY

FIGURE 1 (CON'T)

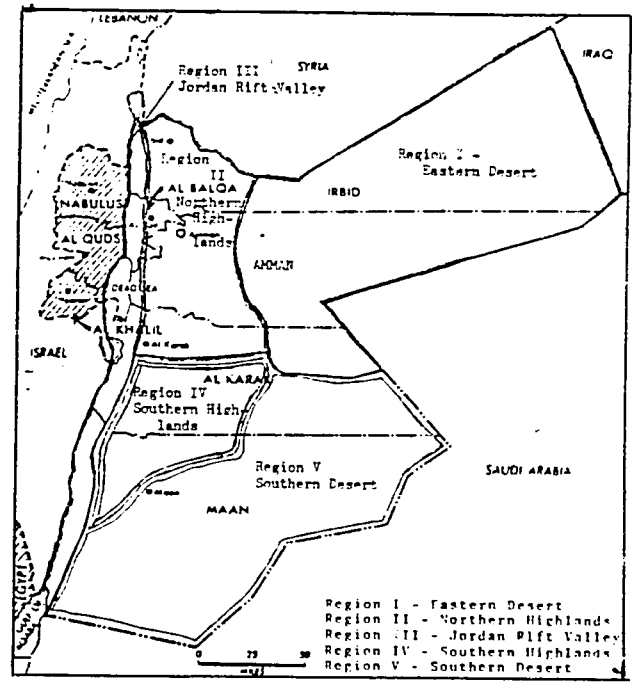


MAP OF BANGLADESH WITH DIVISIONAL BREAKDOWNS

MAP OF TUNISIA
LOCATION OF GOVERNORATES SAMPLED
IN THE STUDY



MAP OF JORDAN



BEST AVAILABLE DOCUMENT

Approximately 10 mothers and 3 community influentials were interviewed in each community. The sample size was selected based on the following criteria:

- Size of the rural population in these countries.
- Personnel requirements.
- Time constraints.
- Budget available for the survey.

The sample size is sufficient to provide information on general food consumption patterns and general trends in beliefs and practices observed in the country.

B) Sample Selection

A multi-stage stratified sampling technique was used to identify the survey sample in each country.

Stage I: Each country was divided into naturally existing regions which possess distinct geographical features, i.e. climatic conditions, agricultural production and geographical positioning. The communities surveyed were proportionately distributed among these regions by rural population sizes.

Stage II: The departments, governorates, or districts that fall within each of the regions were determined. A number of departments were then selected on a purposive basis to provide good representation of the country, again taking into account such factors as location, geography, rainfall patterns, ethnic groups, age and sex ratio of the population. The number of departments selected per region depended on the departments' rural population. The number

of departments selected were:

- Peru: 8 departments (35% of the total departments).
- Colombia: 9 departments (44.9% of the total departments).
- Guatemala: 6 departments (27.3% of the total departments).
- Tunisia: 7 governorates (40% of the total governorates).
- Jordan: 9 sub-governorates (40% of the total sub-governorates).
- Bangladesh: all 19 districts were sampled.

Stage III: Each selected department was further subdivided into districts or municipalities, delegations, or thanas. One municipality was selected for every two communities to be surveyed in the department.

Stage IV: Due to great variation in the population sizes of rural communities, the following criteria were used to determine sample units in the different countries:

- In Peru, communities with population sizes between 350 and 1,000 were treated as one sample unit, while communities with population sizes of 1,001 to 2,000 were subdivided and treated as two sample units.
- In Colombia, communities with population sizes of more than 400 inhabitants constituted one sample unit, while communities with more than 1,001 population were treated as two separate units.
- In Guatemala, communities with 100 - 1,200 were treated as one sample unit, communities with 1,201 - 2,400 were

treated as two sample units, rural communities with populations of 2,401 - 3,000 were treated as three sample units.

- In Tunisia, if the rural population of a Shiekat (community) was less than 5,000, it was treated as one sample unit, and those with populations from 5,001 - 10,000 were treated as two sample units. The Bedouins were sampled in several Bedouin campgrounds near Tunis. Although no specific population figures are available on the total number of Bedouins, a genuine interest in their food habits and beliefs led to interviewing 30 Bedouin mothers and 10 Bedouin community influentials.
- In Jordan, villages with a population of less than 5,000 inhabitants were treated as one community, those with 5,001 - 10,000 inhabitants were treated as two, and those wit 10,001 - 15,000 were treated as three communities. Extremely inaccessible areas were omitted from this list.
- In Bangladesh, villages with population sizes of more than 400 constituted a sample unit.

From these sample units the communities for the survey were drawn randomly. An alternative list of communities, drawn on a random basis, was prepared in the event that a substitution would have to be made in the field due to unforeseen circumstances. Appendix A shows the names of regions and departments surveyed in this study.

Stage V: A systematic or random sampling technique was used for

the final selection of participants of the survey. A random number was chosen from 1 to 9. This number signified the household where the first mother would be interviewed. Each of the remaining mothers was selected after a certain interval. This interval was determined by dividing the total number of households in the community by 10. Of the 10 mothers chosen, 8 mothers had at least one child of preschool age. The remaining 2 mothers were older women with no preschool age children.

If the selected household did not satify the set criteria, the house on the right was the first alternative choice, and the house on the left was the second choice.

In Tunisia, the majority of the rural population does not live in villages or even large groups, but scattered in isolated dwellings in the countryside. Therefore, in each Shiekat, the Sheikh (the administrative head of the Shiekat) was consulted on the existence of small villages and towns within the Shiekat and the percent age of the total population of the Shiekat that resided in them. According to these percentages, a proportionate number of houses was selected from the villages and the rest from the isolated dwellings in the Shiekat.

At times there were problems with the selection of alternative choices in isolated areas, since often there was no house to the right or to the left. In such cases a mother with a child had to suffice.

In Colombia, a preliminary visit was made to each selected community

by the team leader, to draw a complete map of the households in the community with the assistance of a local leader. This map was used to identify individual households to be sampled.

C) Survey Instrument

The survey instrument consisted of two in-depth questionnaires, developed and revised by experienced professionals in the fields of nutrition, health, anthropology, biostatistics and social sciences. One questionnaire was used for the mothers and the other for the community influentials (Appendix B and C).

The questionnaires were translated into the native language of each of the six countries, pretested and adapted to reflect existing information on the food habits of these countries' rural population. Both questionnaires were precoded to facilitate computer processing of data. Detailed code guides and coding instructions were prepared for coding the responses.

D) Personnel

The survey was organized by CARE employees in each of the six countries. Consultations were held with several organizations and institutions within each country.

The field survey investigators consisted of an average of 4 male and 12 female local investigators. The investigators were assigned to 4 teams, each with a designated team leader. The male investigators were primarily responsible for interviewing the community influentials, and the female investigators were responsil for interviewing the mothers.

In Bangladesh, Baybasthapan Shangsad Limited (BSL), under contract with CARE/Bangladesh, recruited the field staff and trained and supervised the survey work.

E) Training

The field staff participated in a 5- to 8-day training session in survey methodology and techniques in interviewing. As part of the training, all teams underwent a pretesting/practice session conducted in several rural communities. At the completion of this session the teams reconvened to discuss their experience and to standardize data collection procedures.

F) Supervision of Data Collection, Questionnaire Clean-Up and Subsequent Computer Analysis

Each team of investigators was headed by a team leader and a technical resource person, who were responsible for checking the questionnaires and the coding. The survey coordinator was responsible for the supervision of all teams in the field. This involved extensive field travel with the various teams.

The completed questionnaires were keypunched and analyzed in New York, using the Columbia University Computer Facility.

G) Time and Budget Constraints

Overall, more extensive field work and analysis of data could have be done. However, given time and budget constraints, these activities had to be limited,

III. RESULTS AND DISCUSSION

The responses of mothers and community influentials were analy separately for each country, and are presented in this section. The results show general trends in the actual beliefs and practices regarding food consumption by rural households. Such information is basic to planning, designing, and implementing sound nutrition programs for these population groups. The community influentials' responses on household food consumption practices within their commu nity were compared with the mothers' responses to determine if the community influentials were knowledgeable about the food beliefs and practices within the community; and, given the budget and time constr of such studies, if the community influentials could serve as the so source of information for future reference.

A) Socio-Economic Characteristics of Mothers

Selected socio-economic characteristics of the survey participants are presented in the following Tables.

TABLE II - 1 AGE OF PARTICIPANTS IN THE SURVEY

MOTHERS	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Mean Age (Years)[1]	35.42 ±10.95	35.62 ±11.36	35.20 ±13.13	33.37 ± 9.19	32.90 ±11.48	32.25 ±10.76
b) Age Distribution:						
< 19 Years	2.3	2.9	5.5	1.2	8.9	5.9
20-29 Years	34.1	32.1	35.5	37.5	32.7	34.7
30-39 Years	29.5	31.2	26.0	33.3	32.1	34.3
40-49 Years	24.6	23.3	20.3	21.4	14.5	16.4
50-59 Years	6.0	6.8	8.5	5.4	7.4	6.4
> 60 Years	3.4	3.9	3.8	0.2	4.3	2.3

[1]All means are provided with Standard Deviation (± SD).

Age - The average age of the mothers studied ranged between 32 and 36 years. Of all mothers interviewed, the largest number fell in the 20 - 39 age category. This occurred because of the sampling qualification that eight of the ten mothers interviewed in each community must have at least one child of preschool age. Two older women, with no preschool-age children, were also interviewed. These qualifications were made deliberately to include mothers who were either currently, or recently, pregnant, nursing or participating in infant and preschool child feeding in order to optimize accuracy of recall. A special effort was made to include older women, since they are knowledgeable about food beliefs and practices observed in the household and often propagate these beliefs from one generation to the next.

TABLE II - 2 TYPE OF RESPONDENT PARTICIPATING IN THE SURVEY

MOTHERS	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Mother w/Child 6 Years + Nutr. Education	5.4	30.1	19.1	4.4	10.0	2.0
b) Mother w/Child 6 Years - Nutr. Education	74.5	49.5	60.0	77.2	71.4	78.1
c) Older Mother + Nutr. Education	0.6	6.0	2.1	1.4	1.8	0.5
d) Older Mother - Nutr. Education	19.5	14.4	19.0	16.2	16.1	19.3

Type of Respondent - Most mothers interviewed had not been exposed to Nutrition Education. However, in Colombia and Guatemala some mothers confirmed having this exposure. Older mothers, generally, had not participated in these programs.

TABLE II - 3 RELIGIONS OBSERVED BY PARTICIPANTS IN THE SURVEY

MOTHERS	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Christianity	98.0	97.6	89.0	-	4.1	2.4
b) Islam	-	-	-	-	95.7	82.1
c) Hinduism	-	-	-	-	-	11.0
d) Other[1]/No Religion	2.0	2.3	11.1	-	-	4.4

[1]Other includes Buddhism.

Religion - The predominant religion practiced in Latin American countries is Christianity, primarily Roman Catholicism; while Islam is common in Jordan, Tunisia and Bangladesh. Hinduism is observed by a minority in Bangladesh. In all countries, other religions or no religion are observed by a few households.

TABLE II - 4 ETHNIC BACKGROUND OF PARTICIPANTS IN THE SURVEY

MOTHERS	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Indian[1]	45.7	0.9	23.3	-	-	-
b) Non-Indian/ Mestizo[2]	51.4	88.5	76.8	-	-	-
c) Black	-	10.0	-	-	-	-
d) Arab	-	-	-	87.4	-	-
e) Bedouin	-	-	-	9.3	39.8	-
f) West Banker[3]	-	-	-	-	4.6	-
g) East Banker[3]	-	-	-	-	52.8	-
h) Bengali Muslim	-	-	-	-	-	82.4
i) Others[4]	2.9	0.4	-	2.8	2.3	17.5

[1]Indian: Aymara Indian, Quechua Indian, or other Indian groups
[2]Mestizo: Spanish - Indian origin
[3]West Banker and East Banker: Arabs
[4]Primarily Hindus in Bangladesh

Ethnic Groups - The sample includes representatives of the predominant ethnic groups in each country. These groups are Mestizos and native Indians in Latin American countries; Arabs in Tunisia and Jordan; and Bengalis in Bangladesh.

TABLE II - 5 LITERACY LEVEL OF PARTICIPANTS IN THE SURVEY

MOTHERS	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Literacy Rate	48.1	69.6	49.3	14.0	29.1	34.4
b) Mean Years of Schooling:						
Mother	2.10 ±4.34	2.30 ±2.08	1.68 ±2.02	0.70 ±1.85	2.25 ±3.87	1.87 ±3.03
Father	4.14 ±2.85	2.32 ±2.04	2.08 ±2.06	1.99 ±5.47	5.29 ±5.60	4.67 ±4.78
c) % of Households with Radio	0.4	82.3	70.5	79.3	-	21.0

Literacy - A wide range of literacy levels, ranging from 14.0% to 69.6%, exists in the countries studied. This rate is higher in Latin American countries than in Jordan, Tunisia or Bangladesh.

Mothers generally tend to have from none to one or two years of schooling, while fathers have an equal number or an extra year or two.

TABLE II-6 OCCUPATION OF PARTICIPANTS IN THE SURVEY[1]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Mother's:						
Housewife	58.5	55.2	75.0	81.9	91.5	91.1
Farmworker	29.4	7.2	1.0	13.0	-	3.6
Sales/Vendor	5.3	-	5.5	0.7	-	-
Craftswoman and Skilled Laborer	5.0	9.7	-	0.9	-	-
Other Services[2]	1.0	28.4	18.3	3.1	8.3	4.4
b) Father's:						
Farmworker with land	57.3	34.5	65.0	12.8	3.6	40.1
Farmworker without land	13.0	31.6	-	21.3	15.1	11.5
Herdsman	0.9	-	-	20.5	-	-
Service Worker	3.4	5.0	20.5	4.4	16.8	11.1
Sales/Business	2.4	2.6	1.0	5.1	3.0	14.4
Clerical/Professional	1.2	-	-	4.2	11.2	7.1
Skilled Worker	4.5	3.6	8.5	16.1	2.0	7.1
Non-skilled Worker	5.9	5.7	-	5.3	9.9	-
Non-classified Military	0.2	-	-	-	25.8	-
Retired/Unemployed	1.0	1.2	-	3.7	5.4	0.9
Not Known	11.1	15.4	5.1	6.5	6.1	6.8

[1]Occupations mentioned by less than 1.0% of the sample are omitted.

[2]Other Services include domestic chores, particularly in Colombia (25.0%)

Occupation - Mothers are generally occupied with housework, particularly in Tunisia, Jordan and Bangladesh. Besides housework some mothers work on farms, or as vendors, craftswomen and skilled laborers, or in service-type jobs, mainly as domestics. The fathers are primarily either landed or landless farmers in all countries, except Jordan, where a sizeable number are in the militar Other occupations represented are service-oriented work in Guatemala Jordan and Bangladesh, and herding in Tunisia.

TABLE II-7 SANITATION FACILITIES AVAILABLE TO PARTICIPANTS IN THE SURVEY

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Source of Drinking Water						
Household Tap	10.5	23.6	12.0	3.5	50.5	15.0
Community Tap	5.4	-	18.0	22.8	3.8	46.3
Pond	-	-	-	-	-	9.2
Tank/Well	33.3	27.9	46.6	57.6	17.6	23.6
River/Stream	47.4	27.7	15.3	2.1	8.4	2.6
Irrigation Ditch	-	-	-	-	10.0	-
Delivered by Truck	1.5	0.2	-	3.0	8.9	-
Other	1.7	20.5	8.3	11.0	-	2.1
Not known	-	-	-	-	-	-
b) Waste Disposal						
% Households with Latrines	7.1	29.3	57.8	38.5	83.2	49.1
% Households who use Their Latrines	6.0	28.0	57.3	35.9	83.2	48.4

Sanitation - Facilities for procuring water for daily use range from moderate to poor. These are primarily tanks/wells, rivers/streams or household/community taps. In Peru almost half the households get their water supply from rivers/streams. The number of households with access to latrines again ranges from good to poor. For purposes of this study a latrine is defined as being at least a hole in the ground in a secluded spot that can be covered to reduce contamination. Comparatively fewer households in Colombia and Tunisia used latrines in rural areas. The inadequate sanitation facilities in these countries pose serious health problems, leading to susceptibility to and outbreak of various infectious diseases.

TABLE II-8 HOUSEHOLD SIZE OF PARTICIPANTS IN THE SURVEY

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Mean Household Size	6.46 ±0.04	7.65 ±2.52	6.44 ±2.77	7.12 ±2.90	7.45 ±3.25	7.20 ±2.85
b) Mean Age Distribution of Household Members:						
Adults (>14 years)	3.26 ±1.66	3.44 ±1.67	3.41 ±1.80	3.38 ±2.30	3.60 ±2.14	3.96 ±1.99
Children (6-13 years)	1.59 ±1.30	1.96 ±1.48	1.44 ±1.42	1.66 ±1.41	1.56 ±1.61	1.79 ±1.65
Children (<6 years)	1.51 ±1.86	1.65 ±1.19	1.67 ±1.28	1.94 ±1.61	2.30 ±1.49	1.54 ±1.31

Household Size - The mean household size in these countries ranges from 6.5 to 7.7. Colombia, Jordan, Bangladesh and Tunisia have an average of about 7 members per household, while Peru and Guatemala average approximately 6 members per household.

Of these household members approximately one to two are preschool children (this increases to three in Jordan), one to two are older siblings under 13 years, and three to four are adults i.e. over 14 years of age. Besides the mother and father, the adults include older children, grandparents and other relatives living in the household.

TABLE II-9 PREGNANCY HISTORY OF PARTICIPANTS IN THE SURVEY

Mothers	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Mean Age at First Pregnancy	19.55 ± 3.84	19.35 ± 3.71	18.90 ± 3.62	19.19 ± 3.62	17.81 + 3.47	15.93 ± 2.13
b) Mean number of Pregnancies	5.86 ± 3.43	6.49 + 3.77	5.77 ± 3.53	5.74 + 3.20	6.80 ± 3.91	5.47 ± 3.14
c) Mean Number of Live Births	5.44 ± 3.18	5.89 ± 3.44	5.17 ± 3.47	4.54 ± 2.56	5.48 ± 3.17	5.12 ± 2.93

Pregnancy History - The mean age of mothers at first pregnancy ranges from 15 to 19 years, with early pregnancy occurring particularly in Bangladesh.

There is a tendency toward earlier pregnancies in the Muslim countries, with some mothers conceiving as early as 12 or 13 years. This was confirmed by earlier reports from Bangladesh, which indicate that three-fourths of young girls are married at or before the age of 14 years (8). The mean number of pregnancies per mother ranges from 5 to 8, with approximately 4 to 6 of these resulting in live births. The results, by process of elimination, indicate a high level of pregnancy wastage occurring in Tunisia and Jordan and much less in Bangladesh. Perhaps this occurs because, although the neonate is born alive, a number of them may die soon after birth. A similar pattern is present in Peru.

TABLE II-10 % HOUSEHOLDS WITH PRESCHOOL CHILD DEATHS

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
%Households with Preschool Child Death (%)	57.6	40.5	32.0	42.0	37.5	45.3

Preschool Child Deaths - Between a third and a half of the households had at least one child die while under 6 years of age and some of these families lost more than one child. The households most affected were Peru and Bangladesh. A number of previous studies cited malnutrition as the cause of death among children under five years. (9,10,11,12,13)

B) Socio-Economic Characteristics of Community Influentials

Selected socio-economic characteristics of surveyed community influentials are presented in Table III.

TABLE III SOCIO-ECONOMIC CHARACTERISTICS OF SAMPLED COMMUNITY INFLUENTIALS

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Type of Respondent:						
Formal Leader	-	-	-	-	-	22.5
Informal Community Leader	20.0	30.2	27.5	37.2	24.3	30.6
Teacher	10.3	11.5	15.8	14.0	40.0	25.4
Midwife	12.8	6.8	15.0	-	2.6	1.0
Health Para-professional	7.7	13.0	5.0	-	4.3	2.4
Local Healer	5.6	1.6	0.8	-	0.9	17.7
Other Men or Women in the Community	43.1	35.9	35.0	48.8	27.8	-
Sex (% Male)	73.3	41.5	55.0	93.0	63.5	1.9
Mean Age (years)	45.08 ±12.73	41.28 ±16.06	47.49 ±14.70	40.38 ± 1.37	38.49 ±15.63	45.38 ±13.10
Mean Years of Schooling	4.91 ± 3.83	4.35 ± 3.[illegible]	4.21 ± 4.44	- -	10.06 ± 5.38	7.96 ± 4.67
Mean Years of Residence in the Community	36.01 ±19.15	27.43 ±20.94	31.38 ±20.27	35.35 ±16.84	24.40 ±21.94	43.11 ±16.12

This category of respondents is primarily composed of informal community leaders in Peru (20.0%), Colombia (30.2%), Guatemala (27.5%), Tunisia (37.2%) and Bangladesh (30.6%). In Jordan (40.0%), however, teachers were the principal respondents, though informal community leaders (24.0%) were also significantly represented in this country. Teachers were also interviewed in Peru (10.3%), Colombia (11.5%), Guatemala (15.8%), Tunisia (14.0%) and Bangladesh (25.4%). Midwives are represented, to a degree, in Peru (12.8%) and Guatemala (15.0%) as is the local healer in Bangladesh (17.7%). The formal leaders in Bangladesh (22.5%) also participated as community influentials in the survey.

The community influentials are predominantly male in all countries, except Bangladesh where only 1.9% are male. Their ages range from 40 - 45 years. In Peru, Colombia and Guatemala they average 4 - 5 years of schooling. A higher level of education is attained by respondents in Jordan and Bangladesh. Most community influentials have resided in their community from 25 - 35 years. This long-term residence indicates that time was not a factor in determining whether the community influentials are familiar with the food habits in their respective communities.

C) Food Consumption

1) Cereal Grains

The basic grains consumed in each of the six countries are presented in Table IV-1.

TABLE IV - 1 CONSUMPTION OF CEREAL GRAINS

		Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
1) Types of Cereal Grains													
a) Maize[1]	M	20.0	16.3	3.3	71.7	94.5	*4.1	0.5	0.7	1.5	5.1	0.0	0.0
	C	30.8	23.6	4.7	76.0	95.9	36.7	0.0	2.3	1.7	2.6	0.0	0.0
b) Wheat	M	29.9	23.1	1.7	12.7	0.0	7.8	96.5	5.4	80.6	1.0	3.4	63.0
	C	17.9	28.2	0.0	5.7	1.7	13.3	97.7	9.3	83.5	0.0	2.4	88.0
c) Rice	M	21.2	11.3	94.1	0.2	4.0	60.8	0.0	3.7	14.0	70.2	94.4	3.3
	C	22.6	9.7	94.8	0.0	1.7	40.8	0.0	0.0	10.4	76.5	96.7	3.3
d) Barley/ Rye	M	14.2	24.9	0.0	0.0	0.8	1.6	0.7	43.6	1.0	1.3	0.0	0.0
	C	17.9	21.5	0.0	0.0	0.0	2.5	2.3	62.8	0.0	0.9	0.0	0.0
e) Quinoa	M	13.3	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	C	7.7	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f) Other[2]	M	1.4	10.7	0.5	1.7	0.0	1.5	0.0	6.2	0.8	16.3	0.2	3.5
	C	2.5	2.0	0.0	1.6	0.0	0.0	0.0	2.3	0.0	13.9	1.0	8.6
g) Not Known[3]	M	0.0	3.1	0.3	12.9	0.5	24.5	1.2	40.1	1.8	5.1	1.8	29.9
	C	0.0	8.7	0.0	16.1	0.0	5.8	0.0	23.2	3.5	6.1	0.0	0.0
2) Seasonal Variation													
a) Seasonal	M	6.0	*13.5	2.0	6.7	2.5	*2.0	4.9	14.0	3.6	3.6	2.6	30.9
	C	7.2	31.3	1.6	13.5	5.8	8.3	2.3	41.9	0.9	0.9	0.0	9.1
b) All Year Round	M	94.0	83.3	97.6	80.5	97.0	73.3	93.2	45.9	94.6	90.3	95.1	39.1
	C	91.8	57.9	97.4	69.8	90.8	83.3	97.7	37.2	96.5	93.9	100.0	85.2
c) Not Known	M	0.0	3.3	0.3	12.8	0.5	24.8	1.4	39.9	1.5	5.6	1.2	29.7
	C	1.0	10.7	0.0	16.7	2.5	7.3	0.0	20.9	2.6	5.2	0.0	5.7
3) Frequency of Consumption													
a) Daily	M	69.0	42.1	66.7	57.3	94.0	*19.5	71.3	27.0	82.1	12.5	93.3	23.6
	C	69.7	27.7	76.0	62.5	96.7	45.0	97.7	30.2	76.5	3.5	99.0	57.4
b) 3-4 Times/ Week	M	15.6	26.3	19.1	12.4	2.0	18.0	15.6	11.2	7.7	31.1	2.1	11.9
	C	19.0	26.7	13.5	9.4	0.0	20.8	2.3	18.6	7.0	0.0	1.0	16.3
c) 1-2 Times/ Week	M	13.5	24.8	12.9	14.5	3.0	36.0	10.0	12.8	6.4	40.8	4.3	17.1
	C	8.7	29.2	9.4	7.3	0.0	23.3	0.0	9.3	9.6	0.9	0.0	17.2
d) <4 Times/ Month	M	1.5	3.6	1.0	2.7	0.6	1.9	1.6	8.6	3.0	10.4	0.0	17.6
	C	1.5	6.1	1.0	4.6	0.0	2.5	0.0	18.3	3.5	86.1	0.0	2.4
e) Not Known	M	0.0	3.1	0.3	13.0	0.5	24.5	1.4	40.3	1.3	5.1	0.1	29.9
	C	0.0	10.2	0.0	16.1	2.5	7.3	0.0	23.3	3.5	9.6	0.0	5.7

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1] In Guatemala 58.5% of mothers use yellow maize and 36% use white maize.

[2] Other cereals in Peru include various indigenous types, i.e. canihua/achita, and oats; in Colombia oats; in Jordan bulgur; in Bangladesh kawan.

[3] Respondents did not know the response or did not give a response for the question.

Presumably, the bulk of calories in the diet is derived from cereal grains. Cereal grains are also probably the principal source of protein in the diet, particularly in Bangladesh (8).

Generally, wheat is the most frequently consumed cereal in Tunisia, Jordan and Peru. Rice is predominantly consumed in Colombia and Bangladesh, and maize is popular in Guatemala. A larger number of Guatemalan households consume yellow maize rather than white maize. This practice is nutritionally beneficial, since yellow maize has a much higher content of Vitamin A. Specifically, the predominant grains consumed in each country, in order of consumption, are identified as follows: Peru - wheat, rice and maize; Colombia - rice and maize; Guatemala - maize and rice; Tunisia - wheat and barley/rye; Jordan - wheat and rice; and Bangladesh - rice and wheat.

Peru has a significant consumption of barley/rye and quinoa. The latter is a nutritious, indigenous cereal cultivated by the Indians (1). In most countries, only one or two cereal grains are predominantly consumed, whereas in Peru a larger variety of grains appears in the diet. The primary grains are usually consumed daily, while the secondary grain consumption is affected, to a degree, by seasonal changes in Peru, Tunisia and Bangladesh.

Even when available, the secondary grains may not be consumed as frequently. Determinants for consumption vary in degree from country to country. They are generally: 1) preference for the grain; 2) its availability; 3) cost; 4) fuel considerations; and 5) the grain's health-giving qualities.

2) Starchy Roots and Vegetables

Data on starchy roots and vegetables, presented in Table IV-2,

TABLE IV - 2 CONSUMPTION OF STARCHY ROOTS AND VEGETABLES

			Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
			1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
1)	Types of Starchy Roots and Vegetables													
a)	Olluco[1] Potato	M	86.6	20.4	78.1	0.0	*67.5	*1.3	88.1	2.3	91.1	*4.8	77.4	10.7
		C	86.7	22.1	80.2	0.0	73.3	9.2	93.0	4.7	92.2	2.6	69.9	19.1
b)	Sweet Potato	M	2.5	9.9	0.0	0.0	1.0	0.8	0.0	0.0	0.0	1.0	6.7	29.3
		C	3.1	8.7	0.0	0.0	4.2	15.0	0.0	0.0	0.0	0.0	17.7	32.1
c)	Yucca (Cassava)/ Arum[2]	M	0.5	11.8	13.6	44.0	2.8	6.8	0.0	0.0	0.0	0.0	15.7	45.6
		C	0.0	14.9	4.2	29.2	5.0	19.2	0.0	0.0	0.0	0.0	11.0	45.0
d)	Plantains/ Oca[3]	M	9.9	25.3	6.1	28.4	4.8	8.3	0.0	0.0	0.0	0.0	0.0	0.0
		C	9.7	8.7	14.1	41.1	10.8	13.3	0.0	0.0	0.0	0.0	0.0	0.0
e)	Carrots/ Beets/ Turnips	M	0.8	17.0	0.0	0.0	1.0	1.5	3.5	65.0	0.0	2.0	0.0	0.0
		C	0.0	12.8	0.0	0.0	1.7	7.5	7.0	88.4	0.0	0.0	0.0	0.0
f)	Squash/ Pumpkin	M	0.0	0.0	0.0	0.0	0.0	0.0	0.5	9.6	7.4	81.3	0.0	0.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	87.8	0.0	0.0
g)	Other[4]	M	0.3	1.9	0.7	5.6	0.3	4.0	1.9	4.2	0.0	0.0	1.3	8.1
		C	0.0	1.0	0.0	9.9	3.3	4.2	0.0	4.7	0.0	0.0	1.0	2.4
h)	Not Known	M	0.0	13.3	1.7	21.9	22.3	77.5	5.8	18.8	1.5	10.2	0.7	5.3
		C	0.5	31.8	0.5	19.3	1.7	31.7	0.0	2.3	4.3	9.6	0.0	0.5
2)	Seasonal Variation													
a)	Seasonal	M	5.9	34.7	3.2	7.3	*13.5	*4.8	31.2	56.2	16.1	*51.0	*20.0	65.6
		C	2.1	39.5	4.7	7.3	27.5	18.3	34.9	79.1	9.6	62.6	49.8	78.9
b)	All Year Round	M	94.1	52.0	95.0	70.8	64.3	17.8	61.8	26.8	81.9	38.5	75.9	26.5
		C	96.9	28.7	94.3	73.4	68.3	48.3	65.1	20.0	87.8	26.1	50.2	20.6
c)	Not Known	M	0.0	13.3	1.9	21.9	22.3	77.5	7.0	16.3	1.5	9.9	3.3	7.9
		C	1.0	31.8	1.0	19.3	4.2	32.4	0.0	0.0	2.6	11.3	0.0	0.5
3)	Frequency of Consumption													
a)	Daily	M	90.6	32.2	79.3	43.4	*11.5	*1.3	50.1	39.4	36.5	10.2	*49.3	26.6
		C	92.8	28.2	81.3	55.2	20.8	1.7	55.8	65.1	40.0	9.6	47.4	30.1
b)	3-4 Times/ Week	M	5.6	25.1	11.8	13.6	14.5	2.3	22.6	17.2	27.6	15.6	20.9	20.1
		C	4.6	14.4	12.0	7.3	27.5	10.0	18.6	4.7	33.9	19.1	46.9	45.9
c)	1-2 Times/ Week	M	3.3	21.8	6.4	17.5	47.5	14.8	15.9	19.3	28.6	49.0	20.7	29.1
		C	2.1	20.5	3.6	15.6	41.7	44.2	20.9	25.6	20.9	47.0	5.7	21.1
d)	<4 Times/ Month	M	0.0	6.6	0.8	3.5	4.3	4.1	6.4	7.4	5.7	15.3	7.6	17.3
		C	0.0	5.1	1.5	2.5	4.9	10.8	2.3	4.7	2.6	13.9	0.0	1.5
e)	Not Known	M	0.0	13.6	1.7	21.9	22.3	77.5	5.1	16.6	1.8	9.9	0.6	6.7
		C	0.8	31.6	1.5	19.3	5.0	33.4	2.3	0.0	2.6	10.4	0.0	0.5

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Olluco is a type of potato (15% of mothers and 19.5% of the community influentials said it was consumed as the 2nd starch) used in Peru.

[2]Arum is a succulent root, similar to cassava, used in Bangladesh.

[3]Oca is a starchy vegetable used in Peru.

[4]Other starchy roots & vegetables include the Peruvian parsnip in Peru, and in Bangladesh the yam.

shows that potatoes are commonly consumed in all countries. Sometimes, they may be consumed as a substitute for a staple. An earlier report on Bangladesh notes that potatoes are not eaten as a staple or substitute for grains in that country, but rather as a vegetable (curry) to accompany rice (8).

The next most common foods in this category, in order of consumption, are:

Peru	- Plantains/Oca, Yucca, Carrots/Beets/Turnips
Colombia	- Yucca, Plantains/Oca
Guatemala	- No predominant starchy root/vegetable was mentioned
Tunisia	- Carrots/Beets/Turnips
Jordan	- Squash/Pumpkin
Bangladesh	- Arum/Yucca and Sweet Potato

A previous study reports that in many warm lowland areas in Guatemala, cassava and plantain form a relatively important part of the diet, supplementing or sometimes replacing cereals (10).

Seasonal changes do not affect consumption of potatoes for the most part, except in Tunisia and Bangladesh. Potatoes are a part of the daily diet in Peru and Colombia, and to a lesser extent in the other countries. The consumption of secondary roots and vegetables is influenced, to a significant degree, by season in all countries except Colombia. They are also consumed less frequently.

The reasons for consumption of these foods are similar to those cited for the consumption of cereal grains.

3) Animal Origin Foods

The principal animal origin foods present in the diet are shown in Table IV-3.

TABLE IV - 3 CONSUMPTION OF ANIMAL FOODS

		Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
1) Types of Animal Foods													
a) Beef/Lamb/ Goat	M	43.3	15.6	77.0	13.3	40.3*	26.5*	88.1	5.4	40.1	7.9	3.4	24.0*
	C	28.2	26.7	83.9	14.6	20.8	30.8	95.3	0.0	47.0	0.9	3.3	24.0
b) Eggs	M	24.9	16.3	3.9	28.3	39.5	10.8	0.7	4.4	29.6	24.2	3.1	28.1
	C	21.0	16.9	1.6	16.7	62.5	19.2	2.3	4.7	21.7	27.8	0.5	47.4
c) Dairy Products[1]	M	2.9	5.6	1.0	3.8	6.0	9.5	0.0	0.5	18.6	13.8	0.0	3.5
	C	10.8	9.7	1.0	1.0	15.8	30.0	0.0	2.3	13.0	5.2	0.0	1.5
d) Chicken/ Birds	M	5.1	19.2	3.5	19.5	7.5	20.5	4.2	21.2	7.1	29.1	0.9	35.6
	C	3.1	14.4	2.1	26.6	0.0	12.5	2.3	53.5	7.8	33.0	1.0	23.9
e) Pork	M	2.0	7.3	0.0	0.0	3.3	10.8	0.0	0.0	0.0	0.0	0.0	0.0
	C	1.0	4.6	0.0	0.0	0.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0
f) Fish/ Shellfish	M	14.2	20.3	5.1	14.2	0.3	0.0	0.0	41.7	1.3	12.0	91.4	2.6
	C	25.6	8.7	4.2	20.8	0.0	0.0	0.0	34.9	0.0	20.9	96.2	2.9
g) Camel/ Horse/Dog	M	0.0	0.0	0.0	0.0	0.0	0.0	2.6	5.4	0.3	1.8	0.0	0.0
	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
h) Others[2]	M	6.0	8.2	6.1	3.8	0.3	0.0	0.0	0.0	2.6	9.4	0.0	0.0
	C	7.7	9.7	1.0	4.2	0.0	0.0	0.0	0.0	7.8	7.0	0.0	0.0
i) Not known	M	1.4	7.7	3.5	17.1	3.0	22.0	4.2	21.0	0.5	1.5	1.0	6.0
	C	2.6	9.2	5.7	16.1	0.0	0.0	0.0	4.7	2.6	3.5	0.0	0.5
2) Seasonal Variations													
a) Seasonal	M	22.4	23.8	2.1	3.6	0.8*	3.3*	18.6	21.0	3.8	5.1	7.0*	31.3*
	C	10.4	21.5	5.7	14.1	0.0	0.8	7.0	14.0	4.3	10.4	2.9	1.4
b) All Year	M	76.2	68.4	94.4	79.3	89.0	74.8	76.2	56.6	94.6	92.1	92.0	62.9
	C	86.7	69.2	88.0	69.8	97.5	96.7	93.0	76.7	93.0	86.1	97.1	98.1
c) Not Known	M	1.4	7.7	3.5	17.1	2.8	22.0	4.2	22.4	1.5	2.9	1.0	5.7
	C	2.6	9.2	6.3	15.6	2.5	2.5	0.0	9.3	2.6	3.5	0.0	0.5
3) Frequency of Consumption													
a) Daily	M	24.3	7.0	29.2	16.3	37.3	11.5*	13.1	14.5	52.6	34.4	62.1	6.3
	C	28.2	5.1	28.1	15.6	45.0	15.0	16.3	30.2	41.7	32.2	56.9	1.4
b) 3-4 Times/ Week	M	20.9	15.9	29.3	16.8	16.5	11.0	23.5	21.7	10.7	17.9	19.6	7.9
	C	25.1	10.8	26.0	12.5	28.3	15.0	27.5	30.2	5.2	13.9	35.4	12.4
c) 1-2 Times/ Week	M	28.8	28.6	20.7	21.2	39.5	45.3	22.6	16.3	23.2	33.2	14.3	26.6
	C	18.5	31.8	23.4	19.8	24.2	57.5	32.6	14.0	37.4	31.2	4.8	50.2
d) <4 Times/ Month	M	26.1	40.7	17.3	28.4	4.1	10.3	36.1	26.2	12.6	12.6	2.6	51.4
	C	25.8	43.1	16.1	35.5	0.0	10.1	23.3	21.0	12.2	18.3	2.9	35.4
e) Not Known	M	1.4	7.7	3.5	17.2	2.8	22.0	4.4	21.0	1.0	2.0	1.1	7.9
	C	2.6	9.2	6.3	16.1	2.5	2.5	0.0	4.7	3.5	4.3	0.0	0.5

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Includes curds (yogurt) in Bangladesh.

[2]Others in Peru include auquenidos; in Colombia, rabbit/guinea pig.

Beef, lamb and goat are most commonly consumed in Tunisia (88.1%) and Colombia (77.0%), and to a lesser extent in Peru (47.3%), Guatemala (40.3%) and Jordan (40.1%). Fish and shellfish are consumed by a majority of households in Bangladesh (91.4%). This is not surprising, since Bengalis are known to be fish eaters (8).

The next most frequently consumed animal foods in each country are: Peru - fish/shellfish, poultry, eggs; Colombia - eggs, poultry, fish/shellfish; Guatemala - poultry, eggs, pork; Tunisia - fish/shellfish, poultry; Jordan - eggs, dairy products, poultry; and Bangladesh - poultry, eggs, beef/lamb/goat.

Dairy products are present to a very small degree in the diet, since these products can generally be sold on the market.

Seasonal variation has very little effect on consumption of animal origin foods in Colombia, Guatemala and Bangladesh. Animal protein consumption in some households in Peru (22.4%) and in Tunisia (18.6%)is influenced during certain seasons. More than 60% of the respondents in Bangladesh eat fish daily, and over 50% of the respondents in Jordan confirm eating animal foods every day. However, since the survey did not examine the quantity of foods consumed, the presence of significant amounts of these foods in the diet is questionable. The majority of the other mothers state that these foods are usually consumed by household members from 1 - 4 times a week.

The most prevalent reasons mentioned by mothers for the extent of consumption are: 1) cost limitations; 2) preference for animal foods; and 3) its health giving qualities.

4) Legumes

Legumes consumed are presented in Table IV-4.

TABLE IV - 4 CONSUMPTION OF LEGUMES

			Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
1)	Types of Legumes		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
	a) Beans/ Dry Peas	M	39.2	19.3	67.2	12.0	0.0	0.0	0.0	0.2	33.9	8.4	0.0	0.0
		C	27.2	30.8	77.6	11.5	0.0	2.5	0.0	2.3	35.7	7.8	0.0	0.0
	b) Horse Beans	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	21.4	0.0	0.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	20.9	0.0	0.0
	c) Black Beans	M	0.0	0.0	0.0	0.0	97.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0
		C	0.0	0.0	0.0	0.0	95.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0
	d) White Dry Beans	M	0.0	0.0	0.0	0.0	0.0	0.0	23.8	1.4	0.0	0.0	0.0	0.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	18.6	0.0	0.0	0.0	0.0	0.0
	e) Broad Lima Beans	M	46.7	14.6	2.6	4.4	1.3	13.5	5.1	34.1	0.0	0.0	0.0	0.0
		C	55.9	7.2	4.3	9.4	4.2	25.0	7.0	58.1	0.0	0.0	0.0	0.0
	f) Lentils	M	2.9	3.1	0.3	6.7	0.0	0.5	0.0	1.2	38.0	17.9	52.6	25.1
		C	5.6	6.2	0.0	15.1	0.0	0.0	0.0	0.0	36.5	9.6	38.8	35.9
	g) Chick Peas	M	0.3	3.1	0.0	0.5	0.3	0.0	40.3	43.1	17.1	32.4	0.0	0.0
		C	0.0	1.0	1.0	1.6	0.0	0.8	67.6	34.9	18.3	44.3	0.0	0.0
	h) Khesari[1]	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.6	20.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5	28.2
	i) Other[2]	M	2.2	11.6	1.3	0.8	0.0	0.8	0.0	0.0	0.0	0.0	12.6	33.6
		C	5.1	6.2	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	16.7	35.9
	j) Not Known	M	8.7	48.0	28.7	75.5	1.3	84.5	30.5	19.3	3.8	19.4	3.9	21.3
		C	6.2	48.7	16.7	60.9	0.0	68.3	7.0	4.7	7.8	17.4	0.0	0.0
2)	Seasonal Variation													
	a) Seasonal	M	20.9	18.7	7.1	2.1	2.3	5.0	17.5	22.6	18.6	19.6	16.0	*35.4
		C	23.6	20.5	12.5	7.3	7.5	8.3	27.9	16.3	21.7	18.3	12.0	23.0
	b) All Year	M	70.4	33.3	64.1	22.4	96.5	10.5	51.5	57.8	76.5	58.4	79.4	43.1
		C	70.3	30.8	69.8	31.3	90.8	22.5	65.1	72.7	70.4	64.3	88.0	77.0
	c) Not Known	M	8.7	48.0	28.7	75.5	1.3	84.5	30.8	19.6	4.6	21.7	4.0	21.3
		C	6.2	48.7	17.2	61.5	1.7	69.1	7.0	11.6	7.8	17.4	0.0	0.0
3)	Frequency of Consumption													
	a) Daily	M	35.0	6.0	26.0	4.2	64.5	1.0	23.5	32.6	15.6	12.2	38.3	*7.4
		C	50.3	8.2	32.8	6.8	79.2	5.8	46.5	46.5	9.6	10.4	31.6	10.5
	b) 3-4 Times/ Week	M	20.6	8.2	17.9	6.2	12.8	2.8	20.0	18.9	15.8	9.9	21.4	12.6
		C	27.7	14.9	17.7	7.3	14.2	3.3	20.9	18.6	19.1	11.3	46.4	43.5
	c) 1-2 Times/ Week	M	27.6	22.3	22.4	12.3	21.3	9.3	16.6	21.2	49.0	41.6	26.7	28.1
		C	10.8	21.0	23.4	14.6	5.0	15.8	14.0	23.3	44.3	47.0	17.2	39.2
	d) <4 Times/ Month	M	7.2	14.9	4.8	2.0	0.3	2.6	9.1	7.7	15.1	15.0	9.3	29.6
		C	5.2	7.2	8.3	9.9	0.0	5.8	11.6	7.0	18.3	13.1	4.8	6.7
	e) Not Known	M	9.0	48.3	29.0	75.5	1.3	84.6	30.8	19.6	4.6	21.2	3.9	21.3
		C	6.2	48.7	17.7	61.5	1.7	69.1	7.0	4.7	8.7	18.3	0.0	0.0

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Khesari: a variety of the legume family.

[2]Other legumes include Pallares & Lupine in Peru, and black gram (3.7), bengal gram (4.9) & green gram (1.6) in Bangladesh.

The concentrated source of protein in the diet is probably derived mainly from legumes in most rural households. The quality of legume protein generally complements that of the cereal grains, thereby providing a more complete protein in the diet. Legumes most commonly present in the diet are:

Peru	- Broad Lima Beans, other dry Beans/Peas
Colombia	- Dry Beans/Dry Peas
Guatemala	- Black Beans
Tunisia	- Chick Peas, dry White Beans
Jordan	- Lentils, dry Beans/Peas, Chick Peas
Bangladesh	- Lentils, Khesari, Black Gram Dhal

Generally, the legumes are used all year round, but in Bangladesh approximately one-third of the respondents indicate that seasonal variations affect their consumption of the secondary legumes. The frequency of legume consumption varies from daily, especially in Guatemala, to 1 - 2 times a week, as in some households in Jordan. Reasons for this pattern of consumption are primarily fuel requirements for cooking, preference for the legume, and its health-giving qualities.

5) Vegetables

Vegetables most frequently consumed by rural households are presented in Table IV-5.

Tomatoes, onion and garlic are the most commonly consumed vegetables. In Bangladesh, brinjal (eggplant) is mentioned by over one-third of the respondents, followed by green leafy vegetables. To some extent, green leafy vegetables are also consumed as secondary vegetables in Peru and Guatemala. However,

TABLE IV - 5 CONSUMPTION OF OTHER VEGETABLES

			Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
			1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
1)	Types of Vegetable													
	a) Tomato	M	16.6	15.8	41.3*	0.3*	42.3	0.8*	91.1	1.6	88.0	9.7	1.6	5.1
		C	9.2	13.3	20.8	21.9	62.5	3.3	97.7	0.0	87.8	7.0	1.9	6.2
	b) Onion, Garlic	M	69.2	18.4	26.9	37.8	9.5	36.5	5.1	82.5	9.4	82.4	0.0	0.0
		C	87.2	8.7	2.6	7.8	7.5	60.0	2.3	97.7	7.8	86.1	0.0	0.0
	c) Green Vegetable	M	0.0	0.0	5.7	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		C	0.0	0.0	6.8	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	d) Green Leafy Vegetables	M	4.8	29.3	2.3	1.7	22.0	5.5	0.0	0.9	0.0	0.8	27.3	11.0
		C	0.5	30.8	3.6	4.2	14.2	15.0	0.0	2.3	0.0	0.0	24.9	11.0
	e) Yellow Vegetables	M	0.0	0.0	8.9	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		C	0.0	0.0	46.4	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	f) Green/Chili Pepper, Pimentos	M	0.9	4.6	0.0	0.2	0.3	0.3	0.7	8.2	0.0	2.6	0.0	0.0
		C	0.0	1.0	0.0	0.0	3.3	1.7	0.0	0.0	0.0	1.7	0.0	0.0
	g) Brinjal	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9	12.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.5	27.3
	h) Other[1]	M	3.3	9.8	0.6	0.5	17.4	19.1	0.0	0.2	0.0	0.8	28.0	66.5
		C	1.0	12.3	1.0	0.0	12.5	15.1	0.0	0.0	0.0	0.9	39.8	55.5
	i) Not Known	M	5.3	22.0	13.3	36.5	8.5	37.8	3.0	6.5	1.5	3.6	4.3	5.1
		C	2.1	34.4	15.6	39.6	0.0	5.5	0.0	0.0	4.3	4.3	1.0	0.0
2)	Seasonal Variations													
	a) Seasonal	M	4.6	11.8*	13.0	6.2	11.8	5.8*	40.8	22.1	15.6	7.7	47.1	72.7
		C	5.1	26.7	18.8	9.4	13.3	11.7	67.4	20.9	11.3	4.3	67.5	84.2
	b) All Year	M	90.1	66.3	73.4	57.3	79.5	56.5	55.9	71.3	82.7	88.0	49.3	22.6
		C	92.8	39.0	65.6	51.0	85.0	81.7	32.6	79.1	84.3	91.3	32.5	15.8
	c) Not Known	M	5.3	22.0	13.3	36.5	8.8	37.8	3.3	6.5	1.8	4.1	3.0	3.7
		C	2.1	34.4	15.6	39.6	1.7	6.7	0.0	0.0	4.3	4.3	0.0	0.0
3)	Frequency of Consumption													
	a) Daily	M	72.4	43.3	55.2	45.4	48.8	33.8*	78.6	79.0	85.5	78.3	65.0	48.6
		C	87.7	31.8	35.9	87.0	64.2	53.3	97.7	95.3	87.8	85.2	64.6	53.1
	b) 3-4 Times/ Week	M	8.5	10.5	13.2	6.7	11.0	7.8	8.4	7.0	5.9	8.2	19.7	21.7
		C	5.1	11.3	20.3	4.7	10.0	10.8	0.0	2.3	2.6	6.1	31.6	39.2
	c) 1-2 Times/ Week	M	10.4	14.9	15.0	8.6	29.5	19.5	6.8	4.4	5.9	8.7	11.3	23.3
		C	3.6	17.4	21.9	13.5	23.3	26.7	2.3	0.0	2.6	2.6	3.3	7.7
	d) <4 Times/ Month	M	2.9	8.5	3.3	3.0	2.0	1.3	3.1	2.5	1.1	0.6	0.4	2.3
		C	1.5	5.2	6.1	5.2	1.7	3.3	0.0	2.3	2.7	1.8	0.5	0.0
	e) Not Known	M	5.6	22.3	13.5	36.5	8.8	37.8	3.3	6.8	1.8	4.1	3.0	3.7
		C	2.1	34.4	15.6	39.6	0.8	5.8	0.0	0.0	4.3	4.3	0.0	0.0

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]Other vegetables include pumpkin & cocoa leaves in Peru; cabbage, eggplant & pumpkin in Guatemala; radish, cucumber, gourds, pumpkin & beans in Bangladesh.

this survey shows that generally, the consumption of green leafy vegetables, as well as that of yellow vegetables, which are a good source of Vitamin A, is not widely prevalent. The common vegetables are usually consumed daily and, in most countries, all year round. However, in Bangladesh (47.1%) and in Tunisia (40.8%) seasonal variations are determinant factors for vegetable consumption. The reasons for frequency of vegetable consumption are determined by variables such as taste or cost.

6) Fruits

Fruit consumption data is presented in Table IV-6. The most commonly consumed fruits in order of popularity are:

Peru	- Citrus Fruits, Banana
Colombia	- Citrus Fruits, Banana
Guatemala	- Banana, Citrus Fruits, Peaches/Apples/Apricots/Grapes
Tunisia	- Dates, Citrus Fruits, Figs/Raisins
Jordan	- Dates, Peaches/Apples/Apricots/Grapes, Citrus Fruits
Bangladesh	- Banana, Mango/Papaya, Jackfruit

Seasonal variation strongly affects fruit consumption patterns in Jordan, Tunisia, and Colombia, and has a less significant influence on the diet in the other countries. Fruit is consumed on a daily basis by most Bengalis, and Jordanians when available. It is eaten less frequently, usually 1 - 2 times a week, by household members in the other countries. In general, fruit is well liked and considered to be good for health, but consumption may be determined by cost and availability.

TABLE IV - 6 CONSUMPTION OF FRUITS

			Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
1)	Types of Fruits		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
	a) Banana	M	30.5	18.6	5.3	* 4.1	* 37.0	* 15.8	0.0	0.0	0.0	0.0	* 60.3	* 9.9
		C	30.8	12.3	28.6	1.0	20.8	33.3	0.0	0.0	0.0	0.0	37.3	12.9
	b) Citrus Fruits	M	39.3	28.6	42.1	19.2	22.5	4.0	20.3	15.2	6.4	32.9	0.0	0.1
		C	28.7	24.6	41.1	49.5	46.7	10.0	25.6	9.3	3.5	32.2	0.0	0.5
	c) Peaches/ Apples, Apricots	M	6.9	0.5	0.0	0.3	13.8	19.3	8.2	14.5	29.6	13.8	0.0	0.0
		C	3.6	1.5	0.5	1.6	17.5	22.5	9.3	30.2	31.3	9.6	0.0	0.0
	d) Mango/ Papaya	M	0.5	0.3	5.3	15.0	5.1	4.0	0.0	0.0	0.0	0.0	27.5	57.0
		C	1.0	0.0	4.7	5.2	6.7	9.1	0.0	0.0	0.0	0.0	41.6	38.3
	e) Melon/ Watermelon	M	0.2	0.5	0.0	0.5	0.3	0.3	1.4	3.0	0.3	3.1	0.3	0.1
		C	0.0	0.5	0.0	0.5	0.0	2.5	0.0	9.3	0.9	0.9	0.5	10.5
	f) Fig/Raisin	M	0.0	0.0	0.0	0.0	0.0	0.0	9.3	43.8	3.6	33.2	0.0	0.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	18.6	34.9	7.0	47.0	0.0	0.0
	g) Dates	M	0.0	0.0	0.0	0.0	0.0	0.0	42.7	1.2	57.4	7.4	0.0	0.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	37.2	2.3	53.9	1.7	0.0	0.0
	h) Other[1]	M	10.9	13.2	5.3	7.0	0.8	2.0	1.0	4.2	0.0	0.0	6.6	26.9
		C	12.3	11.8	9.4	10.5	6.7	11.7	4.7	9.3	0.0	0.0	20.6	38.2
	i) Not Known	M	17.8	38.4	42.1	54.0	20.8	54.8	17.2	18.4	2.6	8.9	5.4	6.1
		C	23.6	49.2	15.6	31.8	1.7	10.8	4.7	4.7	3.5	8.7	0.0	0.0
2)	Seasonal Variation													
	a) Seasonal	M	22.1	18.4	35.9	* 26.8	36.3	* 23.8	73.7	73.2	81.1	77.3	38.6	81.0
		C	36.4	28.2	37.5	34.4	49.2	49.2	81.4	86.0	81.7	83.5	61.7	73.2
	b) All Year	M	59.8	43.0	33.6	19.2	43.0	21.5	9.1	8.4	15.8	12.5	57.6	14.4
		C	40.0	22.6	46.4	33.3	47.5	39.2	14.0	7.0	13.9	7.0	38.3	26.8
	c) Not Known	M	17.6	38.5	30.4	53.9	20.8	54.8	17.2	18.2	3.1	10.2	3.7	4.4
		C	23.6	49.2	15.6	31.8	3.4	11.6	4.7	7.0	4.3	9.6	0.0	0.0
3)	Frequency of Consumption													
	a) Daily	M	20.3	11.1	31.3	19.8	* 39.8	* 17.3	33.3	32.2	58.4	43.1	48.6	47.7
		C	24.1	13.3	47.9	40.6	49.2	29.2	55.8	65.1	57.4	52.2	67.5	64.1
	b) 3-4 Times/ Week	M	8.4	6.5	9.3	5.6	8.5	4.3	20.5	22.4	9.7	11.2	15.6	12.0
		C	4.6	2.1	5.7	5.7	19.2	10.0	25.6	16.3	9.3	7.0	24.9	23.0
	c) 1-2 Times/ Week	M	28.6	25.1	22.5	13.9	27.3	20.5	8.4	19.6	21.7	26.0	22.7	24.0
		C	31.8	24.1	20.8	17.2	25.8	45.0	9.3	11.6	18.3	20.0	4.3	8.1
	d) <4 Times/ Month	M	24.6	18.4	5.6	5.4	3.8	3.3	10.5	7.4	6.2	8.7	8.5	10.8
		C	15.9	11.3	9.8	4.7	2.5	4.1	4.7	2.3	9.6	10.5	3.3	4.8
	e) Not Known	M	17.6	38.5	31.3	55.2	20.8	54.8	17.2	18.2	4.1	11.0	3.7	4.6
		C	23.6	49.2	15.6	31.8	3.4	11.6	4.7	4.7	5.2	10.4	0.0	0.0

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Other fruits include: dry fruit in Peru; avocado/chontaduro/edible palm, tree tomato, custard apple, passion fruit, chirimoya & other indigenous fruits in Colombia; avocado in Guatemala; prickley pear in Tunisia; and jackfruit & guava in Bangladesh.

7) Fats and Oils

Table IV-7 presents information on the fats and oils commonly present in the rural household's diet. The oils and fats most frequently used are:

Peru	- Mixed Oils, Lard
Colombia	- Vegetable Oils/Corn Oil
Guatemala	- Cottonseed Oil, Lard
Tunisia	- Mixed Oils, Olive Oil
Jordan	- Olive Oil, Imported Oils, Butter
Bangladesh	- Mustard Oil

The primary oils are consumed daily by most households. Although fats and oils are generally liked, their consumption may be limited to a small quantity daily due to cost.

8) Beverages

Household consumption of beverages is presented in Table IV-8.

Coffee, tea, or a combination of both are by far the most commonly consumed beverages in all households. In Bangladesh, milk is cited by 73.0% of the households. This may be explained by the fact that a small amount of milk is usually added to tea or coffee, since the latter are not taken alone.

Other beverages consumed include: milk in Peru, panela water in Colombia, atoles in Guatemala, soft drinks/carbonated beverages in Tunisia and sharbat in Bangladesh.

The beverages are consumed by all household members, except in Jordan and Tunisia, where a sizeable number of respondents mention that certain drinks (such as alcoholic drinks) are only taken by adults. The beverages are consumed daily, primarily because they are well liked.

TABLE IV - 7 CONSUMPTION OF FATS AND OILS

			Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
1)	Types of Fats and Oils		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
	a) Olive Oil	M	0.0	0.0	0.0	0.0	0.0	0.0*	36.8	2.8	66.8	4.1	0.0	0.0*
		C	0.0	0.0	0.0	0.0	0.0	0.0	39.5	0.0	56.5	5.2	0.0	0.0
	b) Cotton Seed Oil	M	0.0	0.0	0.0	0.0	78.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
		C	0.0	0.0	0.0	0.0	79.9	3.3	0.0	0.0	0.0	0.0	0.0	0.0
	c) Mustard Oil	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.7	3.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.3	2.9
	d) Vegetable/ Corn Oils[1]	M	0.2	0.0	79.6	7.4	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0
		C	0.0	0.5	75.5	21.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	e) Imported Oils	M	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.2	18.6	32.1	0.0	0.0
		C	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	20.9	38.3	0.0	0.0
	f) Mixed Oils[2]	M	51.7	9.9	0.0	0.0	0.0	0.0	40.1	15.6	0.0	0.0	0.0	0.0
		C	44.1	7.7	0.0	0.0	0.0	0.0	44.2	32.6	0.0	0.0	0.0	0.0
	g) Butter	M	0.5	7.3	1.2	7.0	0.8	1.5	0.0	18.4	12.0	47.4	0.0	24.3
		C	1.0	0.5	0.5	1.6	1.7	7.5	2.3	32.6	16.5	35.7	0.0	3.8
	h) Lard	M	45.8	0.0	8.6	2.9	13.8	5.8	0.0	0.0	0.0	0.0	0.0	0.0
		C	50.3	7.2	16.7	0.0	18.3	16.7	0.0	0.0	0.0	0.0	0.0	0.0
	i) Other[3]	M	0.0	2.6	4.0	0.8	0.0	0.0	0.5	0.9	1.0	6.9	8.3	30.2
		C	0.0	0.0	4.2	56.8	0.0	0.0	0.0	0.0	1.7	9.5	5.2	59.4
	j) Not Known	M	1.1	78.6	6.7	81.5	7.3	92.6	17.5	60.8	0.8	9.2	1.3	53.0
		C	4.1	81.5	3.1	20.3	0.8	72.5	7.0	34.9	4.3	11.3	1.4	36.4
2)	Seasonal Variation													
	a) Seasonal	M	5.4	1.7	1.2	0.5	0.1*	0.0*	6.5	11.0*	3.1	5.6	1.9	25.1*
		C	4.6	3.1	3.1	0.0	0.8	0.0	14.0	46.5	2.6	4.3	1.0	2.4
	b) All Year	M	93.5	19.5	92.3	17.9	91.8	7.5	76.2	27.3	95.9	84.7	94.3	21.6
		C	91.3	15.4	93.8	8.9	95.8	27.5	79.1	18.6	93.0	87.0	99.0	61.2
	c) Not Known	M	1.1	78.6	6.5	81.7	7.3	92.3	17.2	60.8	0.8	9.7	2.7	53.3
		C	4.1	81.5	3.1	91.1	3.3	72.5	7.0	34.9	4.3	8.7	0.0	36.4
3)	Frequency of Consumption													
	a) Daily	M	75.9	4.6	90.5	13.8	82.3	5.0*	76.0	26.8	88.8	69.9	85.6	5.6*
		C	74.9	3.6	91.1	7.3	80.0	10.0	83.7	34.9	87.0	76.5	93.3	35.9
	b) 3-4 Times/ Week	M	10.5	3.6	1.1	2.1	5.8	0.8	4.0	3.3	2.0	6.9	4.3	4.4
		C	13.3	4.1	2.6	1.6	9.2	5.0	4.7	2.3	1.7	4.3	4.8	8.1
	c) 1-2 Times/ Week	M	8.2	7.0	1.5	2.0	4.8	1.5	1.9	4.2	5.9	11.0	5.6	8.0
		C	5.6	7.2	3.1	0.0	5.8	9.2	0.0	25.6	5.2	7.8	1.0	5.7
	d) <4 Times/ Month	M	3.9	6.0	0.5	0.5	0.0	0.3	0.7	3.9	1.4	2.4	0.8	28.7
		C	1.5	3.1	0.0	0.0	0.8	3.3	4.6	4.6	0.0	0.9	1.0	13.9
	e) Not Known	M	1.1	78.6	6.5	81.7	7.3	92.3	17.5	60.8	1.0	9.9	3.1	53.3
		C	4.1	81.5	3.1	91.1	3.3	72.5	7.0	32.6	6.1	10.4	0.0	36.4

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1] In Colombia, vegetable oils include: sesame, palm or coconut oil.

[2] Other oils include: soya oil in Colombia and Bangladesh; sesame oil in Jordan

TABLE IV - 8 CONSUMPTION OF BEVERAGES

		Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
1) Beverages		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
a) Coffee	M	31.3	13.9	0.0	0.0	0.0	*0.0	23.1	6.5	66.6	14.8	0.0	*0.0
	C	24.1	11.8	0.0	0.0	0.0	0.0	37.2	4.7	76.5	11.3	0.0	0.0
b) Tea	M	48.8	26.2	0.0	0.0	0.0	0.0	48.5	39.2	30.1	65.8	9.6	16.4
	C	51.7	14.4	0.0	0.0	0.0	0.0	58.1	41.9	20.9	74.8	21.5	12.0
c) Coffee/ Tea	M	0.0	0.0	79.3	0.3	76.5	13.8	0.0	0.0	0.0	0.0	0.0	0.0
	C	0.0	0.0	81.8	0.5	89.2	10.8	0.0	0.0	0.0	0.0	0.0	0.0
d) Milk	M	7.3	26.8	3.8	16.5	16.5	5.3	1.2	22.1	1.[illegible]	9.2	73.0	5.9
	C	6.2	16.9	1.0	15.6	8.3	13.3	0.0	16.3	0.0	5.2	66.0	19.6
e) Soft Drinks/ Carbonated Beverages	M	0.0	1.4	0.2	1.8	0.3	0.8	1.9	15.9	0.5	5.6	0.0	0.0
	C	0.0	2.6	3.6	5.2	0.0	5.8	0.0	32.6	0.0	4.3	0.0	0.0
f) Sugar Water	M	0.0	0.0	14.7	55.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	C	0.0	0.0	8.3	54.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
g) Alcoholic Beverages (Aguardiente[1], Chicha[2], Fermented Beverages, Wine)	M	5.1	11.2	0.0	0.8	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0
	C	13.8	20.0	0.5	3.1	2.5	16.6	0.0	4.7	0.0	0.0	0.0	0.0
h) Other	M	[illegible].1	6.7	1.5	10.5	3.0	30.0	0.0	0.0	0.0	0.0	3.0	23.3
	C	3.6	2.6	1.5	5.3	0.0	46.7	0.0	0.0	0.0	0.0	12.4	1.9
i) Not Known	M	0.2	13.9	0.6	14.8	2.5	49.3	24.9	15.9	1.5	4.3	14.4	54.3
	C	0.5	31.8	3.1	12.5	0.0	6.7	4.7	0.0	2.6	4.3	1.0	66.5
2) Seasonal Variation													
a) Seasonal	M	6.2	19.7	1.4	1.1	2.3	*1.0	4.9	*11.2	2.8	5.4	*20.9	18.1
	C	3.6	10.8	0.5	0.5	0.8	2.5	9.3	53.5	0.9	4.3	89.0	1.0
b) All Year	M	93.7	66.4	97.7	84.0	95.3	50.0	70.9	72.3	95.7	90.1	64.6	27.3
	C	95.4	56.7	96.4	87.0	97.5	89.2	86.0	46.7	95.7	91.3	0.0	32.5
c) Not Known	M	0.2	13.9	0.5	14.7	2.5	49.0	24.9	16.3	1.5	4.6	14.4	54.6
	C	0.5	31.8	3.1	12.5	1.7	7.4	4.7	0.0	3.5	4.3	10.0	66.5
3) Frequency of Consumption													
a) Daily	M	70.6	34.7	93.9	74.0	95.3	42.3	68.5	68.3	91.1	84.2	40.7	16.6
	C	71.8	22.1	94.3	75.5	99.2	67.5	86.0	97.7	88.7	87.0	25.8	8.1
b) 3-4 Times/ Week	M	14.7	20.7	2.7	5.6	0.0	2.8	2.6	5.8	2.8	4.3	6.3	4.6
	C	18.5	16.4	2.1	3.1	0.0	10.0	7.0	2.3	0.9	1.7	16.7	8.1
c) 1-2 Times/ Week	M	9.[illegible]	20.0	2.0	5.0	1.5	5.5	2.8	5.6	3.1	6.1	15.3	9.3
	C	7.2	22.6	0.0	6.3	0.0	9.2	2.3	0.0	3.5	4.3	23.9	13.9
d) <4 Times/ Month	M	4.9	9.7	0.7	0.7	0.5	0.5	1.2	4.2	0.8	0.0	23.2	15.3
	C	2.0	7.1	0.5	2.6	0.0	5.0	0.0	0.0	1.7	0.0	23.5	3.4
e) Not Known	M	0.0	13.9	0.8	14.8	2.5	49.0	24.[illegible]	[illegible]	2.3	5.1	14.4	54.6
	C	0.5	31.8	3.1	12.5	0.8	7.5	4.[illegible]	[illegible]	5.2	6.1	10.0	66.5

*Responses are significantly different between mothers and c[illegible]ty influentials ($P \leq 0.05$).

[1]Aguardiente - Alcoholic beverage made from sugar cane.

[2]Chicha - Fermented beverage.

D) Food Getting, Purchasing, Cooking and Storage Practices

Table V presents data on food production, purchasing, cooking and storage practices of the rural household.

1) Food Production

Rural households customarily grow or raise foods to meet their household's food needs. This process of getting food is confirmed by the survey where over 75% of the households produced their food, with the exception of Jordan where the major economy of households surveyed is not agricultural. Most of the households that produce their own foods grow vegetable foods and raise animal origin foods, with the exception of Bangladesh where households generally grow only vegetable foods.

This study did not attempt to determine the quantity of animal or vegetable food produced, but a subjective estimation showed that over a third of the households in Peru and Tunisia produced more than 75% of their food needs. In Colombia and Guatemala, over a third of the households produced either none or less than 25% of their food needs. The animal origin foods produced are primarily poultry. The principal plant foods are identified as staple grains, such as maize, by almost half the Guatemalan households, and rice by two-thirds of the households in Bangladesh. Vegetables are produced to a lesser extent.

TABLE V -1 FOOD PRODUCTION PRACTICES IN RURAL HOUSEHOLDS EXPRESSED IN PERCENTAGES

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Food Production						
a) % Household grow/raise food for home use	M 96.7 C 97.9	89.7 85.4	* 87.5 84.2	75.5 90.7	* 56.1 63.5	88.1 77.5
% Households raising animal food[1]	* M 91.8 C 96.9	80.0 90.6	81.0 90.8	75.5 83.7	* 43.1 79.1	47.6 54.4
% Households growing vegetable food[2]	M 88.7 C 99.5	74.6 91.7	70.2 84.2	49.4 39.5	* 38.0 78.2	* 88.6 85.2
b) Proportion of food consumed grown/raised:						
75% - 100%	M 40.1 C 64.1	10.1 13.5	9.8 8.3	40.6 30.2	* 19.9 20.0	11.3 3.3
50% - 75%	M 30.0 C 20.0	11.3 22.4	12.0 17.5	24.2 23.3	10.5 29.6	25.4 21.1
25% - 50%	M 13.2 C 6.2	28.7 22.9	18.5 20.0	8.6 23.3	9.2 18.3	33.1 47.4
0% - 25%	M 13.8 C 9.2	40.1 33.9	48.8 51.7	8.9 18.6	16.8 20.9	21.7 28.2
Not known	M 2.9 C 0.5	9.2 6.8	11.0 1.7	17.8 4.7	41.6 11.3	8.3 0.0

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$)

[1]The type of animal food raised in Colombia is primarily Poultry (35.2%) or a combination of two or more foods such as Poultry (48.0%), Eggs (31.8%), Pork (15.8%) and Beef (7.3%). In Guatemala primarily Poultry (67.3%) and to a lesser extent Pork (8.0%) and other foods are raised. In Jordan Poultry (24.7%), Goat/Lamb (10.2%) are the primary foods. In Bangladesh Poultry (37.7%), Milk (6.1%) are the primary foods raised. In Peru and Tunisia specific animal foods raised are not identified by mothers.

[2]The primary vegetable food grown in Colombia are two or more of the following: Maize (36.8%), Dry Beans (23.9%), Plantains (23.8%), Fruits (15.9%), Vegetables, i.e. Onions, Cabbage, Cucumber, Carrots and Tomatoes (25.0%), Cassava (17.7%), Potato (15.6%), Wheat (7.3%), Indigenous Vegetable (9.7%). In Guatemala Maize (49.0%), Legumes (8.1%) and other vegetable foods (12.5%). In Jordan primarily Vegetables (16.8%), Staples (8.9%) and Root Tubers (6.1%). In Bangladesh primarily Rice (67.5%) and Vegetables (20.7%). In Peru and Tunisia, specific foods were not identified.

TABLE V-2 FOOD PURCHASING PRACTICES IN RURAL HOUSEHOLDS

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Frequency of Marketing:							
Daily	M	5.1	14.7	23.3	28.0	52.0	* 42.0
	C	5.1	14.6	10.8	30.2	47.8	35.4
3 - 4 times/ week	M	5.1	2.9	15.0	13.1	19.6	29.3
	C	2.6	4.7	12.5	20.9	25.2	6.7
Once a week	M	63.6	71.7	54.8	50.6	20.4	13.1
	C	79.5	75.5	60.8	48.8	20.0	6.2
Other[1]	M	25.9	10.1	6.8	6.3	6.6	11.1
	C	11.3	4.2	15.0	0.0	3.5	51.7
Not known	M	0.0	0.0	0.0	2.1	1.3	4.5
	C	1.5	0.0	0.0	0.0	3.5	0.0
b) Decision Maker for Food Purchasing:							
Respondents (Mothers)	M	83.1	53.4	* 68.3	70.4	65.1	* 43.7
	C	81.5	54.7	93.3	83.7	68.7	96.2
Husbands	M	6.7	33.6	21.0	18.4	23.2	42.0
	C	17.9	38.5	4.2	16.3	24.3	3.8
Others[2]	M	9.5	12.0	10.0	9.1	11.6	13.3
	C	0.5	5.7	1.7	0.0	4.4	0.0
Not known	M	5.7	6.7	6.5	0.9	3.8	2.9
	C	0.0	5.7	1.7	0.0	3.5	0.0

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]Other frequencies for marketing, include on bi-weekly or monthly basis.

[2]Other household members with a decision making role in food purchasing include mother-in-law, father-in-law, other women in the household or an older child, or both the respondent and her husband.

2) Food Purchasing

Household food needs are supplemented or completely met by food purchases at the local market. A major percentage of households in Peru, Colombia, Guatemala and Tunisia purchase these foods once a week. Most families in Jordan and Bangladesh shop daily for these food items. The daily purchase of food in Bangladesh may be attributed to: (1) the many landless laborers who are usually paid daily wages and therefore do not have the economic means to purchase food in bulk; and 2) the inadequate food storage facilities in homes, leading to quick spoilage.

The mother is usually the decision-maker for food buying, except in Bangladesh where she shares this role, almost equally, with her husband; and in Colombia, where the husband makes food buying decisions in approximately a third of the households. The large percentage of husbands participating in, or directing, food purchasing decisions in Colombia and Bangladesh, as well as their influence in other countries, underscores the need to include these men in their countries' nutrition/health education programs.

TABLE V-3 COOKING PRACTICES IN RURAL HOUSEHOLDS

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Major Fuel Used for Cooking:							
Wood	M	47.5	79.0	87.8	27.5*	1.8	22.4
	C	48.2	77.6	99.2	48.8	2.6	22.0
Kerosine	M	7.7	0.2	0.0	33.8	29.6	0.0
	C	3.1	0.0	0.0	16.3	17.4	0.0
Gas	M	0.0	2.1	3.8	23.9	41.3	0.0
	C	0.0	4.2	0.0	4.7	23.5	0.0
Wood & Kerosine	M	.4	0.2	0.0	2.6	9.7	0.4
	C	8.2	0.0	0.0	23.3	13.9	0.5
Wood & Gas	M	0.0	2.9	4.5	4.2	0.3	0.0
	C	0.0	2.5	0.8	4.7	0.9	0.0
Gas & Kerosene	M	0.0	0.0	0.0	1.4	15.8	0.0
	C	0.0	0.0	0.0	0.0	36.5	0.0
Other[1]	M	36.4	15.2	3.8	5.2	1.2	73.4
	C	39.8	15.9	0.0	0.0	2.6	77.5
Not known	M	0.0	0.3	0.0	1.6	0.5	3.8
	C	0.0	0.5	0.0	2.3	2.6	0.0

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1] In Peru the other cooking fuels include cow dung; in Colombia, electric stove, coal or various combinations of fuels; in Bangladesh they include cow dung, jute sticks and hay.

TABLE V-3 (Cont'd.)

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
b) No. of Times Food is cooked per day:							
Once	M	3.7	0.2	0.0	4.4	63.8	6.7
	C	8.7	1.0	0.0	0.4	60.9	1.0
Twice	M	44.3	4.1	2.0	40.6	25.8	52.1
	C	55.4	11.4	0.8	67.4	26.1	44.0
Three Times	M	51.2	67.5	97.5	54.1	8.4	36.7
	C	35.4	65.2	99.2	32.6	10.4	54.5
Other[2]	M	0.0	28.0	0.0	0.0	0.8	0.7
	C	0.0	16.9	0.0	0.0	0.0	0.5
Not Known	M	0.0	0.3	0.0	0.0	0.5	3.7
	C	0.0	5.5	0.0	0.0	2.6	0.0
c) Food Preparation by[3]:							
			*		*	*	*
Mother	M	92.0	85.0	90.5	72.5	87.2	85.6
	C	97.9	96.4	100.0	95.3	94.8	99.0
Mother's Mother/Mother-in-law/other women in house	M	3.6	10.2	2.8	4.2	6.4	5.3
	C	1.0	0.5	0.0	4.7	1.7	0.0
Older child	M	0.0	1.7	1.0	21.0	4.3	1.3
	C	0.0	0.5	0.0	0.0	0.0	0.0
Other	M	3.4	2.6	5.5	1.4	1.8	3.3
	C	0.5	2.1	0.0	0.0	0.0	0.0
Not known	M	0.0	0.6	0.0	0.9	0.3	4.6
	C	0.0	0.5	0.0	0.0	2.6	0.0

[2]In Colombia, this primarily includes four meals per day.
[3]In Bangladesh most mothers (82.7%) stated that they refrained from food preparation during menstruation.

3) Cooking Practices

The primary fuel used for cooking is wood collected by th households in Guatemala (87.8%), Colombia (74.9%) and Peru (47.5%). Wood is also a major fuel source in Bangladesh, and is used to supplement other fuels such as kerosene and gas in Tunisia. The major cooking fuel used in Jordan is gas (41.3%). The choice of fuel is presumably influenced by its price and availability. It has an important role in determining the type of foods to cook and the number of times to cook per day.

Almost 100% of Guatemalan households and approximately 50% of the households in Peru, Colombia and Tunisia cook food three times daily. However, food is usually cooked only once a day (63.8%) in Jordan and twice a day (52.1%) in Bangladesh. Seasonal variation does not affect the number of times food is cooked per day, except in Jordan and Tunisia during the wet/rainy or hot season, and sometimes in Bangladesh.

In most households, the family meal is prepared by the mother. Other female household members help in some families. A majority of mothers in Bangladesh (82.7%) refrain from food preparation during menstruation because they believe they are unclean at this time, that they need more rest, or because of custom or advice of elders.

TABLE V-4 BREAD PREPARATION AND WATER BOILING

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a)	% of Households that prepare bread:						
	Daily/or all that is consumed	M 3.9	48.3	* 4.3	71.3	88.0	63.6
		C 3.1	30.7	5.8	76.7	84.	72.7
	Sometimes/or some of the bread consumed	M 14.4	24.5	7.5	18.2	2.8	13.6
		C 27.7	54.7	31.7	20.9	12.2	24.9
	None	M 81.7	26.3	86.5	10.0	8.7	18.3
		C 65.[illegible]	13.5	61.7	2.3	0.9	2.4
	Not known	M 0.0	0.6	0.0	0.0	0.5	4.6
		C 4.1	0.5	0.0	0.0	2.6	0.0
b)	% Household who boil water for drinking:						
	Yes	M * 31.6	32.5	54.3	1.9	1.3	11.0
		C 18.2	17.2	38.3	0.0	1.7	6.7
	Sometimes	M 15.6	9.7	1.9	1.4	3.6	8.0
		C 4.6	10.9	13.3	0.0	0.0	1.9

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$)

Indigenous bread preparation and consumption has almost a ritual role in some cultures. In examining this, it was found that a large majority of families in Tunisia (71.3%), Jordan (88.0%) and Bangladesh (63.6%) bake/prepare all their bread at home. Nearly 50% of the Colombian families prepare their own bread on a daily basis. Wheat is the main ingredient in the preparation of bread in Bangladesh, Jordan and Tunisia, while maize is the main ingredient in Colombia. Whenever bread is prepared in Peru and Guatemala, it is usually made from wheat as well.

Boiling water for drinking is not a practice accepted by a majority of families, except in Guatemala where water is boiled for drinking purposes by 54.3% of the households. It is interesting, however, that the practice of boiling water is definitely more practiced and/or accepted in the Latin American countries. The principal reasons given for not boiling water are: it is not customary, it is not necessary, it takes fuel, and it takes time.

TABLE V-5 FOOD STORAGE PRACTICES IN RURAL HOUSEHOLDS

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a)	% Households storing uncooked dry food (e.g. staples)[1]	M 98.6 C 93.8	86.1 80.2	90.8 95.8	76.7 55.8	* 63.0 87.0	* 85.0 74.2
b)	% Households storing perishables (e.g. vegetables)[2]	* M 66.6 C 21.0	65.4 55.2	34.3 19.2	54.5 55.8	21.4 32.2	* 60.0 24.3
c)	% of Households storing cooked food (leftovers)[3]	M 33.6 C 23.6	32.8 16.7	65.3 40.8	48.7 34.9	15.3 24.3	* 67.4 35.9
d)	% of Households storing preserved food (e.g. salted foods)[4]	M 62.2 C 63.6	61.4 68.8	9.8 10.0	39.6 55.0	18.6 13.0	* 56.7 32.1

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Primary storage facilities used include: sacks and pottery in Peru; sacks, wooden boxes, granary cans, plastic bags, baskets, pots/dishes in Colombia; sacks and wooden boxes in Guatemala; sacks, pottery, tins/boxes in Tunisia; sacks, tins/boxes in Jordan; and in Bangladesh, primarily pottery, gola/dole, sacks and tins/boxes. (Responses less than 5% are eliminated.)

[2]These foods are generally stored in woven baskets in Peru; on shelves, in woven baskets, pottery, tin cans, cloth sacks/bags in Colombia; in baskets/pots/plates in Guatemala; in straw baskets, pottery in Tunisia; in Jordan, icebox; and in Bangladesh, bamboo containers/buckets. (Responses of less than 5% are eliminated.)

[3]Storage facilities are primarily: in Peru, gourd/pottery/jar, vessel/bucket; in Colombia, vessel/bucket, tin/cans; in Guatemala, vessel/bucket, other; in Tunisia, gourd/pottery/jar, woven basket, in Jordan, icebox, in Bangladesh, cooking vessel, gourd/pottery/jar. Responses of less than 5% are eliminated.)

[4]Storage in Peru is usually by hanging food on a wire, or in pottery; in Colombia, vessel, hanging food on a wire; in Tunisia plastic basket/sack, bottle/jar; in Jordan icebox in Bangladesh, pottery. (Responses less than 5% are eliminated.)

4) Food Storage

Most households store uncooked, dry foods, such as cereal grains, except in Jordan where slightly more than one-third of the households do not store these items. This lack of storage is probably the reason for more frequent marketing in that country. Grains are mainly stored in sacks, pottery, woven straw baskets (gola/dol) and wooden boxes.

Approximately two-thirds of the households in Peru, Colombia and Bangladesh keep uncooked perishables, such as vegetables, from

one day to the next. This practice also occurs in over half the families in Tunisia (54.5%), and to a lesser extent in Guatemala (34.3%) and Jordan (21.4%). This food is kept primarily in woven straw baskets, in vessels (in containers of water), pottery, wooden shelves, boxes and metal cooking vessels. In Bangladesh half of the households store uncooked perishables in bamboo containers or buckets.

Cooked foods, if remaining after the meal, may be kept for the next day. Approximately two-thirds of the households in Guatemala and Bangladesh do this. On the other hand, approximately two-thirds or more of the households in Peru, Colombia, and Jordan do not store these leftovers. When stored, the food is usually kept in gourds/pottery/jars, metal vessels, or the cooking vessel.

Preserved foods, such as salted foods, are stored by over 50% of the households in Bangladesh, Colombia and Peru. More than three-fourths of the households in Jordan and Guatemala, and half of those in Tunisia do not keep preserved food. Preserved food is hung from a wire, or kept in pottery, plastic basket, sacks, bottles/jars, and pots.

E) Food Behavior Patterns

Information on the general eating patterns, food preferences, and restrictions observed by the rural families is discussed in this section.

1) General Eating Patterns

Table VI-1 presents data on general eating patterns and food consumption in rural households.

Generally, household members eat their meals together, except in Tunisia and Bangladesh where a significant number eat separately. The separate eating patterns seem to be age and sex linked. In these households the male adults eat separately from the female adults and children, or the male adults and children eat separately from the female adults, mainly because it is customary to eat in this manner or because the male is considered more important. The work schedule also influences this pattern of eating.

Most families eat their meals from separate plates, except in Tunisia and Jordan where more than three-fourths of the families take their food from a common pot.

For the most part rural preschoolers consume 3 meals a day, except in Peru where almost a third of the children consume 2 meals per day. This is also seen to some extent in Bangladesh and Jordan. These preschool meal consumption patterns are also followed by the rest of the households in all countries.

Approximately half the households in Tunisia and Colombia consume some food items (snacks) other than at mealtime. Less than a third of the households in Bangladesh consume these foods.

TABLE VI-1 GENERAL EATING PATTERNS AND FOOD CONSUMPTION IN RURAL HOUSEHOLDS EXPRESSED IN PERCENTAGES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1. General Eating Patterns							
a) Household Pattern of Eating:							
Eat Together	M	92.4	75.9	84.3	58.7	90.8	39.4
	C	97.4	77.6	85.0	44.2	94.8	32.5
Eat Separately	M	2.2	11.8	11.0	35.1	5.1	50.1
	C	1.0	19.3	5.0	55.8	0.9	67.0
Eat Together Sometimes	M	5.0	11.3	4.5	2.8	3.3	6.3
	C	1.5	1.6	10.0	0.0	1.7	0.5
Not known	M	0.3	0.9	0.0	2.1	0.3	3.6
	C	0.0	1.0	0.0	0.0	2.6	0.0
b) Manner in which meal is consumed:							
In Separate Plates	M	80.8	99.2	99.5	14.5	14.0	86.0
	C	89.2	96.9	100.0	0.0	6.1	96.2
From Common Pot	M	0.0	0.0	0.0	77.6	75.8	0.3
	C	0.0	1.0	0.0	76.7	76.5	1.9
Both separate Plate and Common Pot	M	18.7	0.0	0.5	6.3	8.9	9.0
	C	10.7	0.5	0.0	20.9	13.0	1.4
Not known	M	0.0	0.8	0.0	1.4	0.8	4.0
	C	0.0	1.9	0.0	2.3	4.3	0.5
c) No. of Meals Eaten by children less than 6 years:							
One meal	M	0.6	0.0	0.0	*		*
	C	1.0	0.0	0.0	1.2	1.3	3.3
					4.7	1.7	0.5
Two Meals	M	32.5	2.1	1.3	3.0	8.2	9.4
	C	37.4	9.9	1.7	30.2	0.0	8.1
Three Meals	M	50.4	77.2	84.8	83.4	66.1	54.7
	C	59.5	88.5	90.8	23.3	79.1	61.7
Four Meals	M	1.4	1.5	0.0	4.2	7.1	13.9
	C	2.1	0.5	0.0	23.3	8.7	29.7
Not known	M	15.1	18.5	13.3	8.1	17.3	18.4
	C	0.0	0.5	6.7	18.6	10.5	0.0
d) % of Household consuming snacks[1,2]	M	43.2	51.6	38.0	*	46.2	*
	C	54.9	49.5	45.0	97.7	69.6	30.0
							59.3

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]One to two snacks are usually consumed daily by most children in Peru (36.1), Colombia (39.2), Guatemala (30.8), Tunisia (55.9), Jordan (33.5) and Bangladesh (22.4). A few children receive snacks 3 to 4 times daily in Jordan (10.5), Bangladesh (12.0) and Tunisia (4.7).

[2]One to two snacks are usually consumed daily by adult members of households in Peru (31.4), Colombia (44.3), Guatemala (34.8), Tunisia (49.2), Jordan (30.8) and Bangladesh (15.8). Snacks are consumed more often once than twice, however, in Peru, Colombia, Guatemala, and Tunisia. Snacks are also consumed 3 - 4 times daily in a few households in Bangladesh (13.5) and Jordan (7.7).

2) Food Preference

A significant percentage of households in all six countries, given the choice, list foods of animal origin as the most preferred foods. These choices are presented in Table VI-2.

TABLE VI-2 GENERAL FOOD PREFERENCES AND PRIORITIES GIVEN TO HOUSEHOLD MEMBERS EXPRESSED IN PERCENTAGES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Household Food Preferences[1]		Animal Foods (Milk, Eggs, Meat) Rice Wheat/Wheat Products Fruit Sweets/ Sugar	Animal Foods (Milk, Eggs, Meat) Cereal Foods Fruit	Animal Foods (Milk, Eggs, Meat)	Animal Foods (Milk, Eggs, Meat) Couscous/ Pasta Vegetables Fruit	Animal Foods (Milk, Eggs, Meat) Rice Vegetables Fruit	Animal Foods (Milk, Eggs, Meat) Fresh Water Fish Rice
b) Persons Receiving Best Portions of the Meal:							
Husband	M	57.3*	52.6	45.5	73.0	27.0	64.0
	C	86.7	67.2	65.0	74.4	25.2	52.6
Wife (Respondent)	M	1.5	1.2	1.3	1.2	13.0	0.7
	C	0.0	0.5	1.7	0.0	7.0	0.0
Older Boys	M	1.5	3.9	2.3	4.9	5.4	6.0
	C	0.5	1.0	0.0	2.3	0.9	3.8
Children under six	M	4.3	8.2	0.5	3.7	8.9	2.4
	C	2.6	8.3	0.8	9.3	13.0	2.9
Other[2]	M	31.1	5.6	2.0	3.0	5.7	22.4
	C	8.2	2.6	0.0	4.6	3.5	39.7
Not known	M	4.2	27.7	48.3	12.1	40.1	5.3
	C	2.1	20.3	32.5	9.3	49.6	1.0
c) Preference for At Risk Groups:							
Pregnant Women Given First Preference	M	0.0	37.1	18.0	23.8	25.6	28.9
	C	0.0	20.3	20.8	18.6	29.6	32.1
Lactating Women Given First Preference	M	0.0	38.6	27.8	23.8	32.1	20.9*
	C	0.0	19.3	24.2	20.9	33.9	7.7

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$)

[1]Other preferred foods mentioned by mothers are: potatoes in Peru; vegetables (carrots, cabbage, peas, string beans, plantains), potatoes, dry beans, sweets in Colombia; vegetable protein/dry beans, sugar/sweets, coffee and tea in Tunisia; vegetable protein/dry beans in Jordan; fruit in Bangladesh.

[2]Other persons identified by mothers in Colombia include adult men and oldest child and in Bangladesh they are mother-in-law or father-in-law.

Freshwater fish is also high on the list of preferred foods in Bangladesh (31.6%). Besides animal origin food, other foods tioned most often are rice in Peru, cereal products in Colombia, couscous or pasta in Tunisia, and vegetables in Jordan. Fruits are also listed by some households.

Reasons most often given for the preference are that these foods are good for health and that they taste good. Another reason mentioned in Peru (21.7%) and Tunisia (15.2%) is that the food is expensive and therefore prestigious.

In all the countries the male head of the household usually receives the choicest portions of the family meal because he is the wage earner. The father-in-law (11.9%), mother-in-law (7.6%) and older male child (6.0%) are sometimes given first preference in Bangladesh. In Jordan the mother is considered to some extent. The reasons for this preference are that these individuals are older, more important members of the household, or just that they are customarily given priority. Children under six are given preference in less than 10% of the households. Pregnant or nursing women are given preference by approximately one-third of Colombian households, and to a lesser degree by households in other countries.

If the choicest portions of the family meal are of animal origin (i.e., a concentrated source of protein), then giving these foods preferentially to men may leave little or none for young children who need concentrated sources of protein. This practice could consequently lead to negative nutritional implications since

adults can consume bulk and thus have a better chance of meeting their protein and caloric needs by consuming large quantities of the grains. However, children cannot consume large quantities of food, and therefore will have difficulty meeting their caloric and protein requirements.

3) Food Avoidance

Table VI-3 presents data on food avoidance and restrictions of household members.

TABLE VI-3 GENERAL FOOD AVOIDANCES BY RURAL HOUSEHOLDS EXPRESSED IN PERCENTAGES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) % of Households Avoiding Certain Foods, if Given a Choice of Other Foods[1,2]	M		26.4	31.6	70.3	32.4	72.7
	C		42.4	19.2	44.3	29.6	98.4
b) % of Households Restricting Foods for Religious Events:	M	72.0	* 92.7	* 24.0	90.2	0.0	91.5
	C	66.2	72.4	49.2	88.4	0.0	64.3
Omitting Complete Meal	M	17.2	* 9.5	* 2.3			* 89.1
	C	21.5	1.0	0.0			60.8
Omitting Meat/Poultry	M	54.2	* 90.9	* 21.5			* 0.6
	C	43.6	71.4	49.2			0.0
Other	M	0.7	1.0	1.0			1.8
	C	1.0	0.5	2.5			3.5
c) % of Households Avoiding Food Due to Religious Teachings[3,4]	M	2.3		8.3	90.2	85.7	83.0
	C	9.2		27.3	88.4	87.8	93.0

*Responses are signigicantly different between mothers and community influentials ($P \leq 0.05$).

[1]Foods avoided include: Yam (3.6), wheat/bread (0.2), starchy roots and vegetables (2.6), dry beans/lentils/peas (1.1), vegetables (1.4), corn/corn products (1.1), barley (1.1) in Colombia; green vegetables (1.8), starchy roots and vegetables (1.5), dry beans/lentils/peas (0.5), vegetables (2.0), corn/corn products in Guatemala; bulgur/cous cous (38.0), macaroni (13.8), starchy roots and vegetables (0.5), dry beans/lentils/peas (1.4), camel/dog meat/horse (1.2), vegetables (0.9) in Tunisia, bulgur/cous cous (4.8), macaroni (1.8), starchy roots and vegetables (4.6), dry beans/lentils (6.9), camel/dog/horse meat (2.0), vegetables (3.1), eggs (1.3) in Jordan; and yam (4.9), gourd (7.9), Khesari (13.0), green vegetables (6.6), wheat/bread (12.7), fish/sea food (14.4), sweet potato (2.6) in Bangladesh.

[2]Reasons for avoiding food include: food is difficult to cook in Tunisia (0.5) and Bangladesh (0.5); food is expensive in Tunisia (0.2) and Bangladesh (0.1), food is of low prestige in Guatemala (0.3). Tunisia (3.7), Jordan (2.0), Bangladesh (6.7), food is considered to be bad for health in Colombia (9.5), Guatemala (3.0), Tunisia (16.6), Jordan (2.3), Bangladesh (3.6), Custom in Guatemala (1.0), Tunisia (0.5), Jordan (3.8), Bangladesh; and food is not liked in Colombia.

[3]Primary foods avoided due to religious teachings are: in Tunisia, pork (67.1), improperly killed animal food (11.7), and horse (8.4); in Jordan, pork (85.7); and in Bangladesh, pork (56.6), beef (12.0), eggs (11.1) and all animal foods (6.0). Other foods avoided to a lesser extent are: milk and milk products in Tunisia; fish and seafood in Tunisia and Bangladesh; and mutton/sheep, chicken and frog in Bangladesh.

[4]Most households in Bangladesh (75.0) avoid these foods because they are believed to be unclean, while the majority of the households in Tunisia (83.0) and Jordan (76.8) consider it to be sinful to eat certain foods. A few households in Bangladesh (7.0) and Jordan (5.6) believe that some foods are sacred.

Nearly three-fourths of the mothers in Tunisia and Bangladesh expressed the opinion that if given the choice they would not eat the foods they are presently consuming. However, In Colombia, Guatemala and Jordan, most mothers maintained that they would continue eating the food they normally consume, even if other foods were available.

Almost all households observe food restrictions for religious events in Colombia, Tunisia and Bangladesh, while almost three-fourths observe them in Peru, and approximately one-fourth in Guatemala. Meat is primarily restricted in Peru and Colombia, while a large percentage of household members abstain from complete meals in Bangladesh (89.1%). Fasting is also practiced for religious purposes in Peru (17.2%). Food restrictions occur primarily once a year for about one to two days in the predominantly Catholic countries of Peru, Colombia and Guatemala, presumably during the Lent season and Good Friday. In Bangladesh food restrictions are usually related to lunar-solar events, and are practised once a year for one meal. Some households continue this practice for perhaps up to two days. Fasting during the month of Ramadan is commonly observed by Muslims in Bangladesh, Jordan and Tunisia. Consequently meals are eaten before and after daylight hours during the entire month. Over three-fourths of the households avoid certain foods routinely because of religious teachings, e.g. Islamic and Hindu teachings. Pork is mainly avoided by Muslims, while beef is avoided by Hindus. These foods are avoided because they are considered unclean or because it is believed to be a sin to eat them.

TABLE VI-4 VULNERABLE GROUPS EXEMPT FROM RESTRICTIONS[1]

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Pregnant women[2]	M	9.9	24.4*	9.3*		24.2	2.6
	C	10.8	9.9	10.0		33.9	5.7
b) Lactating women[3]	M	8.4	19.1*	8.0*		21.4	5.1
	C	11.3	7.3	9.2		32.2	5.3
c) Children[4]	M	13.6	9.7	5.5*		67.9	13.9
	C	8.7	9.4	2.5		64.3	14.8

*Responses are significantly different between mothers and communities influentials ($P \leq 0.05$).

[1]Sick people are exempt from food restrictions in Jordan (88.8), primarily because they need food to recover.

[2]General reasons for exempting pregnant women from food restrictions include: restrictions are not good during pregnancy, pregnant women need food, fetus needs food for growth, custom. Colombian mothers also stated that there is no obligation to fast at this time, it is not sinful to abstain from fasting.

[3]General reasons for exempting women from food restrictions during lactation include: mother needs food to produce milk, mother should not go hungry, custom, quality of milk affected. Colombian mothers also add that women are not compelled to fast at this time and they should nourish themselves.

[4]General reasons for exempting children from food restrictions include: children need food for health and growth, children should not go hungry, children cannot restrict themselves, and custom. Colombian mothers also include: children do not yet understand the reasons for restriction.

Certain vulnerable groups such as pregnant women, lactating women, children under 13 years, elderly people and sick people are exempt from food restrictions as shown in Table VI-4. This occurs primarily in Jordan and Colombia. These exemptions are seen to a lesser extent in other countries. The reasons given most often in all six countries for exempting pregnant women are that pregnant women need food, and it is not obligatory to restrict the diet during pregnancy. Lactating women are exempt principally because the mother needs food to produce milk and the mother should not go hungry. Primary reasons for exempting children are that children need food for growth and health, and children cannot restrict themselves.

TABLE VII-1 FOOD CLASSIFICATIONS OBSERVED BY MOTHERS EXPRESSED IN PERCENTAGES

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1) Awareness of Food Classifications						
a) % of Households Aware of Hot/Cold Food Beliefs	56.8	36.0	31.5			78.1
b) % of Households Aware of Strong/ Weak Food Beliefs				88.8	42.3	
2) When classification Is Observed						
a) By Everyone:						
All the time	15.6	7.1	5.8	55.0	34.4	4.9
Only when sick	30.8	11.3	3.3	15.4	3.8	68.0
Never	6.2	12.6	12.0	12.4	1.8	0.3
b) By Mothers:						
All times	1.5	5.6	11.0	52.2	30.1	0.9
Only when sick	13.3	8.3	3.3	21.0	3.8	2.7
Never (not known)	2.9	3.8	12.0	12.6	1.5	96.0
c) By Children 6 Yrs.:						
All the time	0.5	3.9	3.8	54.8	30.4	0.4
Only when sick	10.2	7.0	3.0	16.1	3.3	2.1
Never (not known)	2.8	3.2	12.5	11.2	1.5	96.9

F) Food Classification System

Data on "Hot" and "Cold" and "Strong" and "Weak" food perceptions are presented in Table VII-1.

"Hot", "Cold", "Strong", and "Weak" are intrinsic qualities ascribed to food. The "Hot" and "Cold" concepts are predominant in Asia and Latin America. Over three-fourths of the mothers in Bangladesh expressed an awareness of Hot/Cold food beliefs, as did more than half of the Peruvian mothers and approximately one-third of Guatemalan and Colombian mothers. More than three-fourths of the Tunisian women are aware of Strong/Weak food classifications,as are over one-third of the Jordanian mothers.

Though a large percentage of the mothers are aware of the food classification, few were able to define it; suggesting that the concepts and food associations have been passed down through so many generations that the definitions have either been lost or diffused. Of those mothers who attempted to give a definition, some described "Hot" foods as heating, strengthening, or giving energy when consumed. A number of respondents in Guatemala and over a third in Bangladesh defined "Hot" foods as those which produce inflammation. Other definitions given by Colombia mothers include: "Hot" foods are good for health/strengthening, or they cure/prevent diseases. Conversely, some others stated that "Hot" foods are irritating/harmful and cause diarrhea or constipation.

"Cold" foods are primarily defined as cooling or weakening when consumed, or requiring little sun and plenty of water for growth. Many Guatemalan respondents believe "Cold" foods produce gas and stomach upsets. Other definitions given by Colombian women include they are harmful/bad for stomach/cause diarrhea, they are less nutritious/weakening, or they cause illness/colds. Approximately two-thirds of the Tunisian mothers, but only twenty percent of Jordanian mothers, were able to define "Strong/ Weak" foods. "Strong" foods are primarily believed to be strengthening when eaten, or containing concentrated sources of energy. Many Jordanian mothers mentioned that "Strong" foods have health giving properties, and a few stated that they are also heating and cause weight gain. "Weak" foods are principally defined as

being weakening when eaten, or needing plenty of water for growth. Jordanian respondents mentioned that "Weak" foods do not give energy, cause illness and are unhealthy to consume. A few mothers also stated that these foods are difficult to digest and are gas producing. According to the definitions given by mothers "Hot" foods and "Strong" foods are somewhat similar, as are "Cold" foods and "Weak" foods. However, it appears that the "Strong/Weak" concept is not used in Peru, Colombia, Guatemala and Bangladesh.

In Tunisia "Strong/Weak" food classifications are observed routinely by more than half the mothers for their families, including children under 6 years. Other Tunisian households observe these food associations only during illness. In Jordan a similar pattern is seen in approximately a third of the households. However, only a few Jordanian families observe the classifications during periods of sickness alone. A small percentage of Peruvian and Colombian mothers and families, and an even smaller percentage of Guatemalans, observe the "Hot/Cold" classifications, and then usually when ill rather than on a routine basis. Almost a third of the Jordanian mothers and their families observe the "Strong/Weak" classifications on a routine basis.

Examples of "Hot", "Cold", "Strong" and "Weak" foods from the six countries are presented in Table VII-2. As can be observed from this table, although there is no universal agreement on foods in the four classification categories, certain similarities

TABLE VII-2 EXAMPLES OF HOT/COLD/STRONG/WEAK FOODS MENTIONED BY MOTHERS[1,2]

Peru		Colombia		Guatemala		Tunisia		Jordan		Bangladesh	
Hot Food		**Hot Food**		**Hot Food**		**Strong Food**		**Strong Food**		**Hot Food**	
Mate (Tea)	70	Pork	38	Coffee	50	Beef	127	Sheep/ Mutton	138	Hilsa (Fish)	303
Camomile Tea	23	Herbal Teas	38	Broths	42	Lamb	97	Milk & Milk Products	79	Eggs	287
Oregano Tea	21	Chocolate/ Cacao	20	Beef	28	Eggs (Chicken)	41	Beef	69	Beef	282
Tea	16	Coffee/Tea w. Lemon/ Coffee w. Sugar	15	Incaparina[3]	23	Milk/Olive Oil	39	Chicken/ Fish/Eggs	68	Khesari	95
Other Infusions	110	Other Beverages	20	Chili Pepper	19	M'hamsa / Couscous		Certain Fruits	47	Certain Animal Protein Foods	87
All Infusions	15	Chicken	27	Dry Beans	11	Other Vegetables	29	Potatoes	34	Boal (Fish)	43
Chuño (Freeze Dried Potato)	38	Plantain	27			Almonds	28	Mutton	17	Katal (Fish)	41
Wheat	37	Certain Prepared Food	24			Chicken	24	Lentils	13	Certain Starchy Roots & Vegetables	37
Quinoa	27	Dry Beans	20			S'men	21			Milk	30
Corn	23	Corn/Milo	15			Lard	20			Duck	23
Other Staples	33	Yam/Cassava	12			Spaghetti/ Macaroni	12			Jackfruit	19
Chili Peppers	28	Certain Dairy Food	23			Butter	11			Ghee	15
Beef	29					Goat/Green Leafy Vegetables	10			Arum	15
Lamb/Mutton	20									Wheat	11
Other Meats	15									Certain Vegetables	11
Certain Alcoholic Drinks	24										
Lentils/ Legumes	22										
Chocolate	21										
All Broths	12										
Hen	10										
Cold Food		**Cold Food**		**Cold Food**		**Weak Food**		**Weak Food**		**Cold Food**	
Olluco	93	Rice	45	Pork	33	M'hamsa / Couscous	73	Bulgur/ Rice	143	Papaya	240
Potato	50	Potato	44	Hen/ Chicken/ Turkey	26	Spaghetti/ Macaroni/ Barley	40	Cucumber	24	Banana	201
Pork	32	Chicken Broth	28	Dry Beans	19	Shorba	38	Lentils	24	Certain Citrus Fruits	173
Other Meat	34	All Broth	22	Plantain	19	Wheat	35	Eggplant	18	Curd	132
All Fish	29	Lettuce/ Cabbage	20	Leafy Greens	17	Tea	22	Cabbage	18	Whey	120
Barley	29	All Fruits/ Juices	18	Avocado	15	Other Vegetables	17	Potatoes	11	Certain Beverages	116
Wheat	25	Avocado	10	Milk	15	Potato	14	Fried Food	11	Pumpkin	107
Other Staples	40	Other Fruits/ Juices	18	Potato	14	Imported Oil	11			Koi (Fish)	63
Squash	26	Certain Vegetables	17	Cabbage	12	Harissa	10			Shing (Fish)	55
Beans	22	Oats	17	Fish	12					Bel	55
Lupins	18	Barley	15							Certain Cereals	47
Oca	15	Certain Dairy Food	15							Magur (Fish)	37
Broad Beans	14	Herbal Teas	12							Rice	28
Oranges	13	Yam/Cassava/ Ñame	16							Certain Vegetables	23
Bananas	10									Sagoo (a cereal)	11
Other Fruit	49									Chicken	11
All Fruit	10										
Unboiled Milk	13										
Lettuce	13										
Cabbage	10										
Pumpkin	10										

[1]Each mother gave 3 examples of hot/strong & cold/weak foods. The number of times each food was mentioned istotalled and presented in the Table. In Jordan, however, there were only 2 examples given.

[2]Foods mentioned less than 10 times have been omitted from the list.

[3]Incaparina: A local nutritious mix.

can be observed between countries. Animal protein foods appear on the "Strong" foods lists in Tunisia and Jordan. These foods are also categorized as "Hot" or "Strength-giving" foods in Bangladesh. Teas and broths are commonly considered "Hot" foods in Peru, Colombia and Guatemala. Potatoes, cereals, pasta and other starchy foods consistently appear as "Cold" or "Weak" foods. In Bangladesh, the "Cold" foods appear to be primarily in the fruit category. Although a wide variety of foods are given as examples, a relatively small number of the same foods are cited more than ten times by mothers. Only those examples of "Hot/Cold/Strong/Weak" foods that are mentioned more than ten times are included in the table.

Other food classifications stated by community influentials as generally being observed by households in the community are presented in Table VII-3. Consistent with the mothers' responses, "Hot/Cold"

TABLE VII-3 OTHER FOOD CLASSIFICATIONS OBSERVED BY COMMUNITY INFLUENTIALS RANKED BY PREVALENCE[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
A. Food Classifications						
	1) Hot & Cold 2) Wet & Dry 3) Strength Producing	1) Hot & Cold 2) Strength Producing	1) Hot & Cold	1) Weak & Strong	1) Weak & Strong 2) Sweet & Sour 3) Blood-giving 4) Gas Producing 5) Strength Producing	1) Hot & Cold 2) Strength Producing 3) Blood-giving 4) Digestibility
B. When Observed						
	All the time; & less frequently during illness only	All the time	All the time; & less frequently during illness only	All the time	All the time; & less frequently during illness only	All the time; seasonally & less frequently during illness only

[1]Food beliefs expressed by less than 5% of respondents are omitted.
[2]Food beliefs mentioned are generally observed by all household members.

food classifications are mentioned as being observed primarily in Peru, Colombia, Guatemala and Bangladesh, and "Strong/Weak" classifications in Jordan and Tunisia. The next most prominent classification is "Strength-Producing" foods, and is applicable in Peru, Colombia, Jordan and Bangladesh. "Bloodgiving" foods are also mentioned by respondents in both Jordan and Bangladesh.

Community influentials believe these classifications are generally applicable to all household members on a routine basis. However, there are special instances, e.g. during certain seasons or during illness, when these classifications are observed as is confirmed in Bangladesh.

G) Beneficial and Harmful Foods

Certain foods are considered beneficial, while others are believed to be harmful in the general food consumption patterns of the household. Table VIII lists these foods and the number of times they are mentioned as being either beneficial or harmful for the family. It is cautioned that these numbers must be examined, keeping in mind the different sample sizes for countries. In the six surveyed countries a greater variety of foods appears to be beneficial than appears to be harmful. In Colombia and Guatemala harmful foods are mentioned so few times that they are eliminated from the list.

Beneficial foods mentioned most often in the six countries are predominantly foods of animal origin, such as milk, meat and eggs. Grains such as quinoa and rice and cereal products are also mentioned as being beneficial. Foods are believed to be beneficial

TABLE VIII FOODS CONSIDERED BENEFICIAL/HARMFUL FOR THE FAMILY EXPRESSED IN NUMBER OF TIMES MENTIONED[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=852	n=520	n=471	n=507	n=910
1) Animal Origin Foods						
Boiled Milk (Cow, Goat)	132	132	120	130	151	510
Raw Milk		35				
Meat (Beef)	124	191	56	58	249	476 (All Meat)
Chicken/Hen	18	14	21	27	249	12
Lamb				123		
Other Meat	31					
Eggs	77	160	61	95	103	210
Fish	15	12			14	389
2) Grains & Staples						
Corn	11	30				
Rice/Bulgur/Plantain		15	15		79	46
Quinoa	139					
M'hamsa/Couscous				66		
Spaghetti/Macaroni				31		
Certain Staples	34					
3) Legumes						
Dry Legumes	54	19	28			
4) Vegetables & Fruits						
Potato	80	12				
Green Vegetables	28			18		
Other Vegetables		29		60	88	
Fruit/Juices	13	19		47		30
Bananas						26
Oranges/Grapes/Mandarin					34	
Apples					29	
5) Other Foods						
Certain Beverages		75				
Incaparina[3]			44			

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.

[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list

[3]Incaparina is a local Guatemalan nutritious mix.

TABLE VIII (Cont'd.)

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
	n=841	n=853	n=520	n=471	n=507	n=910
HARMFUL FOODS:						
1) Animal Origin Food						
Beef						39
All meat						35
Fish	14				23	48
Boal (Large Fresh Water Fish)						92
Hilsa (Large Fresh Water Fish)						52
Certain Animal Protein (Egg)						111
2) Grains & Staples						
Wheat				11		25
M'hamsa/Couscous				36		
3) Legumes						
Khesari						80
4) Vegetables & Fruits						
Vegetables						25
5) Other Foods						
Harissa				50		
Lard				47		
S'men (Clarified Butter)				33		
Pepper						39

principally because of their effect on health and strength, or because they are "Hot", "Cold" or have "bloodgiving" qualities. Their use is limited to cost and availability. Though a large majority of respondents mentioned the foods to be beneficial at all times, some foods are considered to be beneficial only during illness.

Harmful foods also include animal origin foods, and more specifically, certain types of bony freshwater fish mentioned in Bangladesh. Foods are generally believed to be harmful because they are "Hot", "Cold", cause illness/are unhealthy, are difficult to digest, or are gas-producing. A significant number of respondents in Tunisia mention "Strong" foodsas being harmful; suggesting that perhaps these foods are harmful during illness. In general, foods are believed to be harmful either at all times, or only during sickness. Very few respondents mention that they can be harmful during certain seasons. Most mothers mentioned avoiding these foods. The few mothers who used them gave availability and low cost as primary reasons for consuming the foods despite their being considered harmful.

In general, it can be concluded that beneficial/harmful foods are related to their associations with food classifications, and whether a food is consumed or not is influenced to some extent by these associations. However, between countries there is a difference in the extent to which they affect the daily food pattern of the rural population.

H) Special Dietary Practices of Vulnerable Groups

Table IX-1 presents the food beliefs and practices observed by rural women in the six surveyed countries before puberty; Table IX-2 at first menstruation; and Table IX-3 for subsequent menstrual cycles.

1) Puberty and Menstruation

There is no universal agreement regarding food considered beneficial and harmful for this stage of life cycle. Some mothers

may consider certain foods as beneficial while others, even within the same country, may consider them as harmful, and vice versa. Therefore the need for caution when generally classifying foods, even for communities within each country, is necessary.

TABLE IX-1 FOOD CONSIDERED BENEFICIAL/HARMFUL FOR YOUNG GIRLS BEFORE FIRST MENSTRUATION EXPRESSED IN NUMBER OF TIMES MENTIONED.[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Food						
Boiled Milk	15	20	95	63	96	70
All Meat						55
Beef/Chicken					80	
Lamb				31		
Eggs (Hen)/Certain Animal Protein		19	45	65	46	41
2) Grains & Staples						
Bulgur/Rice					26	
3) Vegetables & Fruits						
Oranges/Apples					33	
4) Other Foods						
Incaparina			30			
HARMFUL FOODS:						
1) Animal Origin Foods						
Boal						34
2) Legumes						
Khesari						27
3) Vegetables & Fruits						
Avocado		24	20			
Chili Pepper	40					
Citrus Fruits/Juices		13	18	70		
Lemon	40	24				
4) Other Foods						
Tea				95		
Harissa				40		

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.

[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

The growth spurt at puberty, together with the many physical and physiological changes, underscores the importance of good nutrition during this early period. Although an almost equal number of foods are mentioned as beneficial or harmful before puberty, beneficial foods predominate more often than harmful foods. Examples of beneficial foods cited most often for all countries are boiled milk and other animal origin foods. Incaparina is cited as beneficial by some mothers in Guatemala. Those foods considered to be harmful for this pre-puberty period are mostly acidic fruits. In Tunisia, tea and harissa are considered harmful. Animal protein foods such as freshwater fish (boal) and khesari are avoided by few mothers in Bangladesh. Reasons for the foods being considered beneficial or harmful are not readily apparent other than their positive or negative effect on physical development and health. It is interesting to note that a large number of women in both Jordan and Tunisia believe "Strong" foods to be beneficial. The majority of respondents in Peru, Colombia and Guatemala consider foods to be beneficial from early puberty; while those in Tunisia, Jordan and Bangladesh state that the foods are most beneficial from six years of age. The majority of the mothers confirm having eaten those foods considered to be beneficial before their own menstrual cycles began. A few mothers refrained from particular foods, either because they were unavailable or because they were expensive. "Harmful" food are generally avoided by a large number of women in Tunisia, and they are avoided only during sickness by some other women in the community.

TABLE IX-2 FOOD CONSIDERED BENEFICIAL/HARMFUL FOR YOUNG GIRLS AT PUBERTY. EXPRESSED IN NUMBER OF TIMES MENTIONED.[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Foods						
Boiled Milk	12	22	33	38	45	57
Leban/Lebaneh					27	
Meat (Beef)	10	13	23		54	21
Eggs (Hen)/Certain Animal Protein		30	20	36	44	21
2) Grains & Staples						
Rice/Rice Pudding						44
3) Vegetables & Fruits						
Certain Fruits					35	
4) Other Foods						
Mint						
Maté (Tea Infusions)	40					
Incaparina			40			
HARMFUL FOODS:						
1) Animal Origin Foods						
Unboiled Milk/Milk	20	54	32	34		
Buttermilk				31		
All Meat						68
Eggs (Hen)/Certain Animal Protein			34			94
Fish		15				194
2) Vegetables & Fruits						
Lemons	61	70				
Oranges	47	85	20			
Citrus Fruits/Juices	22	28	44	47		
Avocado		63	63			
Certain Fruits		35				17
3) Other Foods						
Sour Acidic Foods	36				23	
Cold Water	34					
Certain Fats & Oils						49
Tumeric						33
Tea				43		
Harissa				40		

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.

[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

Generally, more foods are mentioned as harmful than beneficial for the first menstrual cycle. Boiled milk and certain animal origin foods are considered to be beneficial in all of the countries. Rice/rice pudding is believed to be beneficial by some mothers in Bangladesh as is Incaparina in Guatemala. Acid fruits continue to be considered harmful together with unboiled milk and certain types of animal protein, particularly fish in Bangladesh. In Tunisia, tea and harissa continue to be considered harmful, as is tumeric and certain types of fats and oil in Bangladesh, and cold water in Peru. Although, as before, the reasons for foods being classified as either beneficial or harmful are not readily apparent, some mothers cited foods as being especially beneficial during the menstrual period, due to their "strength-giving qualities", or because they are "Hot" or "Strong" foods. These beneficial foods had been consumed by most of the mothers during their own puberty. The comparatively few exceptions are due to the food's expense or availability. In a very few instances, the respondents did not consume the foods because they did not believe in their beneficial qualities. Foods are considered to be harmful at first menstruation primarily because they are believed to cause discomfort or because of their "Cold" food properties. A significant number of Tunisian women mention "Strong" food as being harmful. The majority of respondents confirm having avoided the foods during their own first menstruation. Those few who did not avoid these foods were not convinced of their harmful effects.

TABLE IX-3 FOOD CONSIDERED BENEFICIAL/HARMFUL FOR YOUNG GIRLS DURING SUBSEQUENT MENSTRUATION. EXPRESSED IN NUMBER OF TIMES MENTIONED.[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Foods						
Boiled Milk		21	65	36	73	14
Beef		14	12		40	
Eggs (Hen)		22	22	38	35	
Leban/Lebaneh					31	
2) Other Foods						
Maté/Tea Infusions	40					
Incaparina			34			
HARMFUL FOODS:						
1) Animal Origin Foods						
Milk	16	56		13		
All Fish						54
Eggs (Hen)						35
All Animal Origin Foods						28
2) Vegetables & Fruits						
Avocado		63				
Lemons	36	81				
Oranges	28	82				
Citrus Fruit/Jucies	20	60		32		
Other Fruit		36				
All Fruit		30				
3) Other Food						
Certain Fats & Oils						36
Certain Nuts				27		

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.

[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

For later menstrual cycles foods are more frequently regarded as harmful than beneficial. These foods, together with the reasons for their beneficial or harmful attributes, are similar to those mentioned at first menstruation. Boiled milk and animal origin foods were the main foods cited as being good to consume at this time, except in Peru where maté/tea infusions were listed. Incaparina was cited in Guatemala. In Bangladesh, except for boiled milk, all other animal origin foods are considered to be harmful, as are some fats and oil. Once again, acid or citrus fruits and sour foods are considered harmful. "Hot" foods and strength-giving qualities are important criteria in choosing beneficial foods during the menstrual period. Most mothers consume these foods during their own menstrual cycle, and those who don't cite cost as the primary reason for lack of consumption. Foods are considered to be harmful mainly if they produce discomfort and, in Colombia, if they cause illness. They are avoided during the menstrual period, and most mothers confirm avoiding them during their own menstruation. The few respondents who continue to consume these foods during their menstrual period do so because they do not believe the foods to be truly harmful.

2) Pregnancy

Food regulations during pregnancy in all countries are essentially directed toward promoting the health and well-being of the developing fetus. Table X-1 presents data on dietary precautions and regulations during pregnancy.

The majority of the mothers interviewed in Tunisia, Bangladesh, Peru and Jordan believe a woman should eat less than normal during

the term of pregnancy, while most mothers in Colombia believe a normal amount of food should be taken at this time. Guatemalan respondents seem to be equally divided between consuming normal and less than normal amounts of food during pregnancy. Comparatively fewer mothers in all countries see the need to consume more food

TABLE X-1 DIET DURING PREGNANCY

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Amounts of food consumed during pregnancy							
Normal	M	42.1	37.4	37.8	14.7	38.8	24.0
	C	69.7	50.5	60.0	27.4	40.9	26.3
Less than normal	M	47.4	29.8	38.0	70.9	44.1	62.0
	C	24.1	28.1	20.0	62.8	28.7	68.9
More than normal	M	10.5	32.4	21.5	13.3	16.1	13.6
	C	5.6	19.8	18.3	7.0	26.1	4.8
Not known	M	0.0	0.2	2.8	1.2	1.0	0.4
	C	0.0	1.0	1.7	2.3	4.3	0.0
b) Reasons							
Prevents large fetus/ difficult delivery	M	3.2	3.4*	0.8	10.0	6.1	8.5*
	C	0.0	2.0	0.0	4.7	4.3	1.9
Food for fetus growth	M	2.5	6.2	6.3	7.0	11.0	1.3
	C	0.0	1.6	0.8	2.3	20.0	1.0
Eating for two	M	0.9	10.9	3.3	4.9	5.4	1.6
	C	0.0	5.7	4.2	0.0	2.6	2.9
Advised to do it	M	0.3	0.2	0.5	2.6	1.3	0.0
	C	0.0	1.0	1.7	2.3	0.9	0.0
Custom	M	6.0	0.0	3.3	1.4	2.8	0.0
	C	0.0	3.6	2.5	2.3	7.8	0.5
Feel ill/uneasy	M	0.0	0.0	0.0	0.0	0.0	37.4
	C	0.0	0.0	0.0	0.0	0.0	0.0
Other[1]	M	46.1	48.3	63.8	63.9	40.6	32.1
	C	0.0	61.5	38.3	62.8	17.4	67.4
Not known	M	40.7	30.4	21.8	10.2	32.9	19.0
	C	0.0	24.5	51.6	25.6	47.0	26.8

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Other reasons given by mothers, in Colombia, for amounts of food consumed are: The mother has a larger appetite, the mother needs more nourishment for herself and baby. The mother eats less because of: lack of appetite, not able to eat more, it is harmful to eat more. The mother eats normally because she is not able to eat more.

during the pregnancy term. Primary reasons for eating less food are to prevent a large fetus or a difficult delivery, or because it is customary. Reasons for continuing to eat normally or more than normal are to supply the fetus with food for growth, or because the mother is eating for two. Most mothers confirm observing these food patterns during their own pregnancies.

TABLE X-2 DIET DURING ILLNESS OF THE EXPECTANT MOTHER

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a) Diet when ill during pregnancy							
Fasting	M	8.8	4.8	15.3	29.8	7.4	6.6
	C	2.1	5.2	1.7	2.3	8.7	1.4
Eat Less	M	38.4	44.8	56.8	22.6	61.5	46.6
	C	38.5	53.1	71.7	51.2	38.3	59.8
Normal Diet & Medicinal Teas	M	17.0	9.5	9.3	30.5	5.4	29.3
	C	25.6	6.8	6.7	11.6	11.3	12.4
Restricted Diet & Medicinal Teas	M	20.9	7.0	6.5	6.1	5.6	12.6
	C	23.6	15.1	14.2	11.6	8.7	16.7
Eat Normally	M	8.2	24.8	6.5	3.5	12.8	4.3
	C	8.2	12.0	2.5	2.3	13.0	7.7
Other	M	5.0	5.1	2.0	5.4	4.1	0.6
	C	1.0	6.3	2.5	16.3	14.8	1.9
Not known	M	0.0	3.8	3.8	2.2	3.1	0.5
	C	0.0	1.6	0.0	4.7	4.3	0.0
b) Reasons							
To Recover	M	20.4	14.5	12.0	19.1	12.5	46.0
	C	0.0	9.9	9.2	14.0	13.9	40.2
To Give Body Rest	M	0.6	0.8	0.3	24.7	2.6	1.1
	C	0.0	0.0	0.8	7.0	1.7	1.9
No Appetite	M	48.1	41.1	37.3	13.5	61.0	5.6
	C	0.0	48.4	39.2	7.0	35.7	34.0
Bad to Eat When Sick	M	1.1	1.2	4.0	7.0	1.8	25.6
	C	0.0	4.2	5.8	9.3	0.9	5.3
Other[1]	M	24.9	37.5	36.5	25.4	11.2	17.0
	C	0.0	25.0	28.3	27.9	22.6	17.7
Not known	M	4.7	4.1	9.3	10.2	10.9	4.7
	C	0.0	11.5	16.6	34.9	25.2	1.0

[1]Other reasons given by mothers for eating less include: food would aggravate the illness; foods are harmful/nauseating; the body should be given a rest. Reasons for eating normally are mother has not lost her appetite; she has to nourish the fetus; so that she does not become weak; or there is no need to eat more.

As presented in Table X-2, a number of mothers further indicate that the pregnant woman eats even less when ill, usually because of a lack of appetite. Some mothers completely withhold food, especially in Tunisia, while other mothers in Tunisia and Bangladesh continue to eat their normal diet, together with medicinal teas, in order to recover more quickly. The majority of mothers claim they observed such practices when they were ill during their own pregnancies. This practice of curtailing food intake during pregnancy and illness has serious nutritional implications, since the normal family diet is limited in variety, and presumably also in quality. Further curtailment of this diet could produce serious nutritional deficiencies that would adversely affect both the mother's health, as well as the health and well-being of the unborn child.

Foods regarded as especially beneficial or harmful for women during pregnancy are listed in Table XI.

There is no clear distinction between beneficial and harmful foods Foods of animal origin, such as boiled milk, meat and eggs, rank high on the list of beneficial foods in all six countries, and in Bangladesh fish is also mentioned as beneficial. Foods are believed to be beneficial primarily because they are good for health, or because they make the infant healthy or they are beneficial for the fetus. Respondents in Bangladesh also indicate that "Hot" and "Cold" foods possess beneficial qualities. Most mothers consider these foods to be

TABLE XI FOOD CONSIDERED BENEFICIAL/HARMFUL DURING PREGNANCY EXPRESSED IN NUMBER OF TIMES MENTIONED[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=641	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Food						
Boiled Milk	89	128	78	133	170	403
Raw Milk		25				
Yogurt				29		
All Meat	53					250
Beef		108	29	17		
Lamb				76		
Beef/Goat/Lamb					177	
Chicken		16		14	42	16
All Fish						191
Magur						54
Koi						27
Eggs & Other Animal Food	37	152	36	81	124	156
2) Grains & Staples						
Rice/Bulgur					40	
3) Vegetables & Fruits						
Certain Vegetables		27		68		
Tomatoes/Onions					43	
Fruits/Juices	19	14		45		46
Banana					50	
Apple					50	
Orange/Lemon/Mandarin					25	
4) Other Foods						
Certain Beverages		72				
Incaparina			35			

[1] Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.

[2] Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

BEST AVAILABLE DOCUMENT

TABLE XI (Cont'd.)

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
HARMFUL FOODS:	n=641	n=953	n=520	n=471	n=507	n=910
1) Animal Origin Food						
Milk		29		14		
All Meat						30
Fish	13					49
Boal						106
Mregal						56
Certain Animal Protein						100
2) Grains & Staples						
M'hamsa/Couscous				114		
3) Vegetables & Fruits						
Citrus Fruit				50		
Certain Fruit		16				33
Pineapple						79
4) Other Foods						
Tea				37		
Salt				29		
S'men				29		
Lard				27		
Hot Spicy Food					34	
Harissa				74		
Pepper				55		

good throughout the entire pregnancy, while others, especially in Bangladesh, believe them to be most beneficial between the sixth and ninth month of pregnancy. More than half the mothers in Bangladesh, and a large number of mothers in Tunisia and Colombia, were not able to eat these foods during their own pregnancies because of their high cost and unavailability.

Foods cited as being harmful in Tunisia are mostly couscous, which is primarily starchy, harissa and pepper. In Bangladesh certain varieties of fish and pineapple are considered harmful. Few mothers indicate milk to be harmful in Colombia and Tunisia. Mothers for the most part learn what to eat or avoid during pregnancy, by observing other mothers. This occurs to a lesser extent in Bangladesh. The pregnant woman's mother is an important source of advice during this period, and in Bangladesh this role is shared almost equally with the mother-in-law. Foods are believed to be harmful during pregnancy because they possess "Hot" or "Cold" properties, are difficult to digest, cause illness or produce gas. Some mothers believe these foods are also bad for the fetus. Harmful foods are generally avoided for the entire pregnancy. Fewer foods are mentioned as being harmful up to the third month only, or up to the sixth month,or from the sixth to ninth month. Most mothers avoided these foods during their own pregnancies.

3) Post Partum

Dietary beliefs and practices that influence eating patterns of women after childbirth are presented in Table XII.

TABLE XII DIET OF MOTHER AFTER DELIVERY OF BABY

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	% of Households, Restricting Food After Birth	M 28.9 C 28.7	24.5 21.4	13.0 7.5	9.8 9.4	39.8 32.2	81.7 95.0
2)	Duration of Restriction						
	a) 0-8 Hours	M 23.1 C 22.1	22.7 18.8	15.8 21.7	* 12.8 7.0	36.7 30.4	84.3 82.3
	b) 9-24 Hours	M 4.8 C 3.6	2.1 3.6	7.5 3.3	4.4 4.7	7.7 6.1	5.0 6.7
	c) 25-4 Hours	M 0.8 C 0.0	0.0 0.0	1.3 0.8	0.9 2.3	2.8 3.3	1.0 1.0
	d) 49-96 Hours	M 0.4 C 2.6	0.2 0.0	6.5 0.0	2.3 13.9	2.6 0.9	1.3 6.7
3)	Reasons for Restrictions						
	a) To give mother rest	M 6.5 C 0.0	5.3 3.1	0.8 3.3	9.1 16.3	27.3 21.7	* 2.1 31.6
	b) Mother is unclean	M 1.2 C 0.0	1.5 0.0	0.0 2.5	1.6 0.0	1.3 0.9	73.9 57.4
	c) Custom	M 4.6 C 0.0	2.9 3.6	2.3 1.7	0.9 0.0	1.5 0.0	1.9 1.0
	d) Other[1]	M 16.3 C 0.0	14.7 14.0	23.8 11.7	7.5 11.6	9.9 7.8	11.7 7.2

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]Other reasons given by mothers in Colombia are: the mother has no appetite; the mother should not be disturbed; the mother is tired/exhausted, weak; or the food may be harmful

Approximately three-fourths of the respondents in Peru, Colombia, Guatemala and Tunisia, along with about fifty percent of the Jordanian respondents, believe that food should be given to the mother immediately after birth. On the other hand, over three-fourths of the respondents from Bangladesh believe that food should be withheld from the mother for up to eight hours after delivery. This belief is shared by approximately a third of the mothers in Jordan, and twenty percent of the mothers in Peru, Colombia and Guatemala. Few mothers believe that this restriction should last for longer periods. Of these mothers, the largest percentage are the Guatemalans. No overriding reasons appear for this behavioral pattern, except in Bangladesh where three-fourths of the respondents believe that the mother is unclean during this period. A few others also mentioned that the body needs a rest, or that this is the customary behavior after delivery. Of the mothers reporting food restrictions, most mothers in Bangladesh and Guatemala, and approximately one-third of the Peruvian and Tunisian respondents, confirmed following these dietary regulations during their own post partum. Other reports have observed that Muslims believe women should not be given any animal origin food for six days after delivery, and no rice on the day after delivery. (1)

Foods considered especially beneficial or harmful for consumption by mothers following childbirth are listed in Table XIII.

As is evident from the table, more animal origin foods are considered beneficial than harmful. However, there are instances where

TABLE XIII FOODS CONSIDERED BENEFICIAL/HARMFUL FOR POST PARTUM EXPRESSED IN NUMBER OF TIMES MENTIONED[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Food						
Boiled Milk	32	39	33	58	133	235
Yogurt				32		
Leban/Lebaneh					26	
Local Butter					25	
Certain Meats	203					69
Meat Extracts/ Purees		39				
Beef	13	84		57		
Goat/Lamb/Beef		15		93	187	15
Chicken/Hen	85	186	68	70	90	45
Fried Chicken		85				
Turkey			68			
Fish					90	91
Shing						55
Magur						54
Koi						39
Eggs (Hen)	18	91	16	169	104	82
2) Grains & Staples						
Wheat/Cereals		11		31		70
Rice	65	13				
Rice/Bulgur					56	
Rice/Rice Pudding						59
3) Vegetables & Fruits						
Potato	174					200
Certain Vegetables				29		
Apples/Bananas					51	
Bananas						97
4) Other Foods						
Broths/Soups	263	113	78			
Certain Prepared Food	28	76				
Halawa					45	
Chocolate		53	23			
Certain Beverages		34				
Mazamorras		27				
Fenugreek				41		
S'men				38		
Certain Spices						35
Ghee						33

[1]Each respondent gave 3 samples of beneficial/harmful foods. The number of times each food was mentioned was totalled.

[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

TABLE XIII (Cont'd.)

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
HARMFUL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Foods						
Milk	16	33	19	38		
Buttermilk				29		
All Meat						236
Beef	26	11				71
Pork/Wild Boar	62	17	10			
Fish	55					271
Soal						132
Hilsa						83
Eggs (Hen)			28	10		
Certain Animal Protein						138
2) Grains & Staples						
Certain Staples	58					
Rice		26				31
Certain Cereals				63		
M'hamsa/Couscous				63		
3) Legumes						
Dry Beans/Broad Beans	12	61	63			
Khesari						48
Certain Legumes						26
4) Vegetables & Fruits						
Potatoes	139	51				
Certain Vegetables	41					31
Other Starchy Roots & Vegetables	57	23				
Chili Peppers	41					11
Yam/Cassava		75				
Green Leafy Vegetables						41
Avocado		23	54			
Citrus Fruit/Juices		13		36		
5) Other Foods						
Certain Prepared Foods		32				
Chocolate		26				
S'men				27		
Fats/Sauces					41	
Harissa				72		
Pepper				63		

even within the same country, certain foods listed as beneficial by some mothers are listed as harmful by others, and vice versa. Potatoes are considered beneficial in Peru and Bangladesh. Broths and soups are considered beneficial in the three Latin American countries. Foods are regarded as beneficial because they are nourishing/strength-giving, possess "Hot" or "Cold" properties, are easy to digest, are cleansing, or help healing. A majority of mothers in Tunisia and Jordan believe "Strong" foods to be beneficial. Foods are considered to be good for the mother up to forty days, and in some cases up to sixty days, after childbirth. Most mothers consumed these foods during their own post partum period. The few who did not, cited cost, availability and dislike of food as reasons.

Foods widely believed to be harmful by some mothers for women during post partum are: certain animal origin foods , hot peppers/ chili peppers and starchy food. Pork is mentioned as being harmful in Peru, Colombia and Guatemala. Specific varieties of fish, such as boal and hilsa, are believed to be harmful in Bangladesh. M'hamsa and couscous are harmful in Tunisia; potatoes in Peru; cassava in Colombia; and dry beans in the Latin American countries. Certain foods are believed to be harmful because of their "Hot" and "Cold" food properties, and these foods are also thought to be unhealthy and cause illness, to be difficult to digest, to produce gas and to prevent healing. Certain "Strong" foods are considered unhealthy in Tunisia. Foods are generally believed to be harmful for the same length of time as those that are beneficial. The few mothers who consumed these foods did so primarily because they were not convinced of the foods' harmful effects or because of the foods' availability and low cost.

4) Lactation

Dietary regulations for women during nursing are presented in Table XIV-1.

Although the majority of respondents in all countries, except Peru, believe nursing women should consume more than normal quantities of food while nursing, a significant number state that normal food intake is sufficient. In Peru half the mothers believe this to be true. The primary reason given for increasing food intake during nursing is to increase the mother's milk production. Nearly all mothers confirmed following these dietary regulations while they were nursing.

TABLE XIV-1 DIET OF NURSING WOMEN

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
a)	Quantity of Food Consumed						
	Normal	M 49.5	34.5	39.3	22.4	39.5	20.4
		C 62.1	53.1	53.3	30.2	29.6	25.4
	Less than normal	M 1.1	2.4	3.5	4.2	2.6	1.7
		C 2.1	2.6	2.5	0.0	1.7	2.4
	More than normal*	M 49.2	62.5	53.5	72.0	56.9	75.1
		C 35.4	43.8	44.2	67.4	63.5	72.2
	Not known	M 0.0	0.0	3.8	1.4	1.0	2.5
		C 0.0	0.0	0.0	2.3	5.2	0.0
b)	Reasons						
	Increase milk production	M 22.8	33.9	18.5	44.1	50.5	62.9
		C 21.5	24.5	0.0	51.2	54.8	56.5
	Improve milk quality	M 1.2	4.2	0.3	4.4	0.5	1.4
		C 1.0	2.1	0.0	2.3	0.6	0.5
	Harmful to child	M 0.0	0.0	1.3	5.4	1.5	0.0
		C 0.0	0.0	0.0	0.0	0.0	0.0
	Other[1]	M 27.6	32.3	53.0	32.9	13.8	13.6
		C 33.8	23.4	0.0	2.3	5.2	16.3
	Not known	M 48.0	29.6	26.6	13.3	33.7	21.0
		C 43.0	50.0	0.0	44.2	39.2	26.8

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]Other reasons included: in Colombia, to avoid affecting the milk adversely and it is harmful to the infant; in Tunisia, eat less to avoid affecting milk, affects milk production adversely, causes indigestion in child.

TABLE XIV- 2 INFLUENCE OF CHILD'S ILLNESS ON NURSING MOTHER'S DIET

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Lactating Women's Diet When the Infant is Ill[1]							
a) Reduce food intake	M	20.4	11.3*	29.1	35.0	42.9	48.0*
	C	37.4	18.2	15.0	34.9	34.0	59.8
b) Eat special food	M	27.7	12.7	22.6	16.3	11.2	17.2
	C	33.8	8.9	16.7	30.2	11.3	22.0
c) Omit certain foods	M	10.2	28.4	30.1	18.6	6.1	37.3
	C	3.2	7.8	42.5	11.6	20.9	57.9
d) Eat certain foods & omit others	M	2.0	0.0	0.0	3.5	3.3	0.0
	C	0.0	0.0	0.0	2.3	1.7	0.0
e) Eat normally	M	0.0	38.0	0.0	3.0	0.0	0.0
	C	0.0	53.1	0.0	0.0	0.0	0.0
f) Reduce food intake & eat special food	M	0.0	0.0	0.0	1.6	3.1	0.0
	C	0.0	0.0	0.0	2.3	0.0	0.0
g) Other	M	35.9	0.3	10.3	15.9	24.0	0.3
	C	19.5	10.9	24.2	14.0	9.6	1.0
h) Not known	M	3.1	8.8	13.5	4.9	9.4	4.4
	C	0.0	0.5	5.0	4.7	20.9	0.0

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]In this category the percentage may be over 100% since a combination of 2 responses are given by some respondents.

The diet of the nursing mother is influenced by the health of her nursing infant. If the infant is ill, more than one-third of the mothers in Bangladesh, Jordan and Tunisia, approximately a third of the mothers in Guatemala, and twenty percent of the mothers in Peru reduce their food intake. Approximately a third of the mothers in Colombia, Guatemala and Bangladesh omit certain foods at this time, while a number of the mothers in Peru, Guatemala, Tunisia and Bangladesh eat special foods. These changes in the diet were observed by almost all of the mothers surveyed when their

infants were ill. As in pregnancy, the majority of mothers in all countries rely on observing others for their food regulations during this period, except in Bangladesh. Other respondents cite their own mothers as a primary source of advice, while in Bangladesh a significant number of women rely on their mothers-in-law.

TABLE XIV-3 SOURCE OF INFORMATION FOR PREGNANT AND NURSING WOMEN

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Source of advice Regarding Diet							
a) Self/Observation of Others	M	53.6	42.5	49.8*	46.4	41.3	23.0*
	C	48.7	38.5	30.8	46.5	40.9	3.8
b) Mother	M	29.4	36.5	32.5	26.3	33.4	34.9
	C	11.3	35.9	25.8	25.6	19.1	28.2
c) Mother-in-law	M	3.3	1.2	4.5	11.9	3.1	30.0
	C	1.0	0.5	0.0	7.0	2.6	29.7
d) Older Woman	M	4.0	4.1	1.0	8.9	4.1	8.1
	C	6.2	1.6	3.3	11.6	14.8	36.4
e) Health Worker	M	3.9	10.6	9.8	1.4	8.2	0.9
	C	4.1	11.5	36.7	0.0	10.4	0.0
f) Local Healer	M	0.0	0.6	0.8	0.7	0.0	0.0
	C	1.0	4.2	0.8	4.7	0.0	0.0
g) Other	M	5.0	4.4	1.1	4.2	8.2	0.9
	C	7.7	7.3	1.6	4.7	8.7	1.0
h) Not known	M	0.0	0.2	0.0	0.0	1.0	1.9
	C	0.0	0.5	0.0	0.0	3.5	0.5

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

Table XV lists foods regarded as particularly beneficial and harmful for women while nursing. A larger variety of foods

TABLE XV FOODS CONSIDERED BENEFICIAL/HARMFUL DURING BREASTFEEDING EXPRESSED IN NUMBER OF TIMES MENTIONED[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:						
1) Animal Origin Food						
Boiled Milk	89	83	66	129	192	340
Raw Milk		38				
Leban/Lebaneh					62	
Beef		45		25		
Lamb				47		
Certain Meat	22					180
Chicken/Hen/ Turkey			17	10	42	38
Eggs (Hen)		43	14	50	23	111
Fish					42	
Shing						117
Magur						106
Roi						68
2) Grains & Staples						
Quinoa	49					
Wheat	48			29		
Oats	39	16	16			
M'hamsa/Couscous				114		
Barley				28		
3) Vegetables & Fruits						
Certain Vegetables				51		
Pumpkin						34
Fruits/Juices		18		24		29
Bananas/Apples					37	
Tomatoes/Onion					61	
4) Other Foods						
Broths/Soups	144	50	34			
Sugar Water & Milk		116				
Certain Prepared Foods	44	60				

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.
[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

TABLE XV (Cont'd.)

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS: (Cont'd)						
4) Other Foods						
Chicha/Mate/ Infusions	25					
Certain Beverages		83				
Chocolate		43	15			
Mazamorras		25				
Butter/Olive Oil/ Ghee					60	
Rice Water					52	
Atoles			53			
Incaparina			43			
HARMFUL FOODS:						
1) Animal Origin Foods						
Milk			10			
All Meat						30
All Fish						54
Boal						78
Hilsa						76
2) Legumes						
Khesari						34
3) Vegetables & Fruits						
Certain Vegetables						39
Green Leafy Vegetables						80
Cucumber				29	28	
Chili Pepper	27					59
Avocado		60	68			
Citrus Fruits			16	81		
Certain Fruits		17			25	12
Other Fruits				59		
Coconut			29			
4) Other Foods						
Harissa				117		
Pepper				59		
S'men				29		
Lard				29		

are listed as beneficial than harmful for women during nursing. Mothers in all six countries rank boiled milk, meat and other animal origin foods as being beneficial. Some varieties of fish are listed in this category in Bangladesh, and broths and certain cereals are mentioned in the Latin American countries. Tea infusions, chocolate, sugar water and milk are also listed as beneficial in Colombia. Fruits are believed to be beneficial by many mothers in Tunisia, Jordan and Bangladesh. Most women eat these foods to increase their milk production, and to a lesser extent to improve the quality of their milk or for strength. Some respondents, especially in Bangladesh, consume foods believed to be good for the infant. Some "Hot" and "Cold" foods are among those mentioned as being beneficial by mothers in Bangladesh. While the majority of mothers believe these foods are beneficial during the entire nursing period, a few believe them to be beneficial only through the first month of nursing. Most mothers were able to consume these foods during their own period of nursing. Since the survey did not determine quantities of food consumed, it is not possible to assess the extent to which these foods make up the diet. High cost and availability are major reasons for limited consumption of these foods by some respondents, especially those in Bangladesh.

With the exception of Peru, most mothers list certain fruits (particularly citrus) as being harmful during lactation. Chili pepper/pepper is listed as harmful in Peru and Bangladesh, as is harissa in Tunisia. In Bangladesh certain specific types of fish are considered harmful, and some mothers also mention green leafy vegetables. A majority of women in Peru, Colombia and Tunisia consider these foods harmful to the infant, while the respondents in Bangladesh state that the major reason for listing a food as harmful is because it possesses "Hot" properties. A significant number of Peruvian, Colombian and Guatemalan mothers believe "Cold" foods to be harmful. Other reasons commonly given include: harmful foods are "Weak" foods, they cause infant indigestion, decrease milk production and are difficult to digest. Most harmful foods are usually omitted in the diet of the nursing women for the entire nursing period, though some foods are only considered harmful through the first month. Most mothers confirmed avoiding these foods while they nursed. The few mothers who did consume these foods usually did so because they were convinced the food was not bad or because of the low cost.

5) Infants and Preschoolers

Infant and younger preschoolers' feeding patterns are presented in the following tables:

a) Neonatal Feeding: Table XVI-1 shows information on neonatal feeding. The practice of giving certain foods to the newborn within a few hours after birth exists to a large extent

TABLE XVI - 1 NEONATAL FEEDING PRACTICES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	% of Households giving food to newborn[1]	M 43.5	73.4	86.9	58.3	97.2	95.5
		C 46.7	73.4	88.3	64.4	87.0	100.0
2)	Type of Food Items Given						
	a) Warm Water	M 1.2	4.7	8.8	0.0	0.8	0.4
		C 2.1	4.7	0.0	0.0	1.7	2.3
	b) Sugar Water[2]	M 4.8	30.2	5.8	0.0	79.8	10.0
		C 12.8	29.7	5.8	0.0	66.1	10.0
	c) Honey	M 0.8	0.0	10.3	0.0	0.0	76.7
		C 1.0	0.0	17.5	0.0	0.0	72.2
	d) Fats & Oils[3]	M 1.9	7.5	34.1	27.1	7.4	2.7
		C 3.6	6.8	35.0	20.0	5.2	4.3
	e) Infusions/Herb Teas[4]	M 21.1	14.8	14.5	9.0	4.3	0.0
		C 11.8	14.1	0.8	20.0	5.2	0.0
	f) Chicken Broth	M 0.0	0.0	0.0	2.8	0.0	0.0
		C 0.0	0.0	0.0	0.0	0.0	0.0
	g) Milk	M 0.0	0.0	0.0	2.0	0.0	5.4
		C 0.0	0.0	0.0	15.6	0.0	8.3
	h) Other[5]	M 13.9	15.9	16.3	13.7	4.4	0.0
		C 15.4	17.2	29.2	8.8	7.8	2.8
3)	Reason						
	a) Cleansing	M 13.5	8.2	14,0	20.0	34.4	13.3
		C 14.4	8.9	34.2	27.9	23.5	12.0
	b) Custom	M 8.4	4.2	10.8	2.5	3.8	41.6
		C 9.2	7.3	9.2	7.0	6.1	37.8
	c) Strength Giving	M 0.0	2.6	6.8	10.7	4.6	3.0
		C 0.5	0.0	1.7	14.3	5.2	4.3
	d) Prepares Baby to Receive Milk	M 0.0	0.5	3.3	3.7	14.0	1.3
		C 3.6	0.5	3.3	2.3	20.9	19.6
	e) Ritual Significance	M 0.0	0.0	0.0	2.8	1.0	14.4
		C 1.5	0.0	0.8	0.0	1.7	12.0
	f) Easy to Digest	M 0.0	0.0	0.0	1.6	2.3	3.0
		C 0.0	0.0	0.0	0.0	1.7	1.0
	g) No Maternal Milk	M 0.0	0.0	0.0	0.0	24.0	0.0
		C 0.0	0.0	0.0	0.0	20.0	0.0
	h) Other[6]	M 21.7	55.7	49.5	13.3	7.4	21.0
		C 27.2	49.5	40.0	14.0	0.9	12.4

[1]Food is primarily given within the first four hours after birth.

[2]Warm water and sugar, honey and water, and syrup and water are included in this category.

[3]In Guatemala, olive oil and cottonseed oil are specifically used; as are olive oil, s'men and butter in Tunisia; butter and castor oil in Jordan; and mustard oil in Bangladesh.

[4]In Tunisia, cumin and fennel are specifically used.

[5]Specific food items mentioned by mothers in this category are: a combination of several foods in Peru; and child is put to breas. in Bangladesh.

[6]Reasons given by mothers in Colombia are: infants are born hungry; mother still does not have milk; for thirst; the infants cry; the mothers' urge to feed the infants; the mothers were advised.

in all the countries. The foods most commonly given are: infusions/herbal teas in Peru; sugar water, infusions and herbal teas in Colombia; olive and cottonseed oil and infusions and honey in Guatemala; s'men and butter in Tunisia; sugar water in Jordan; and honey or sugar water in Bangladesh. These foods are reported to be given by a cloth or nipple on which the infant sucks (1). If the foods, or the receptacles in which they are given are, unsanitary, e.g. fingertips cotton, etc., the potential dangers of introducing infection at this early age are intensified. The foods are used primarily as laxatives to cleanse the body or to give strength. In some cases, particularly in Bangladesh, it is a custom. In Jordan some mothers believe it prepares the neonatal's stomach for the mother's milk. The foods may be substitutes for colostrum and give some nourishment to the child. They can also initiate the sucking process, even if only minimally.

b) Breast-feeding: Breast-feeding is an almost universal practice among rural women in all the surveyed countries. Over half the mothers in Tunisia and Bangladesh, a third of those in Jordan and Peru, and a fourth of the mothers in Guatemala and Colombia were nursing their infants at the time of the interview. The majority of mothers, particularly in Tunisia, Jordan and Bangladesh, do not believe the infant should be given the breast immediately after birth, but rather after a mean interval of up to 34 hours in the Latin American countries, and approximately between 46 - 62 hours in Tunisia, Jordan and Bangladesh. This practice of withholding the breast initially decreases the consumption of colostrum that is beneficial to

TABLE XVI - 2 BREAST-FEEDING PRACTICES

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1) % of Mothers who Breast-feed	M 98.7	98.0	99.2	95.1	96.6	99.9
2) % of Mothers Breast-feeding When Surveyed	M 38.1	26.0	25.0	53.6	34.7	57.3
3) Breast-feeding Infant Immediately After Birth[1]						
a) Yes	M 35.9 C 34.9	21.9 26.6	*48.5 23.3	0.0 0.0	0.0 0.0	4.9 3.8
b) No[2,3]	M 63.6 C 58.5	77.2 67.7	49.5 69.2	98.1 97.6	97.6 94.7	90.7 95.0
c) Not Known	M 0.0 C 2.5	0.0 1.0	2.1 0.8	1.8 2.3	1.8 5.2	3.7 0.5
4) If No, When Was The Child Breast-Fed: Mean Hours	*25.68 ±23.90	33.99 ±26.31	16.44 ±21.15	46.56 ±30.24	62.16 ±28.08	62.14 ±17.78
5) Duration of Breast-feeding: Mean Months	*16.79 ± 6.83	14.00 ± 6.38	*12.97 ± 5.51	21.46 ± 9.14	16.37 ± 7.43	27.29 ± 8.24
6) Actual Practice						
a) % of Mothers Who Breast-fed Longer	M 20.6	12.7	0.0	37.1	24.0	6.0
b) % of Mothers Who Breast-fed Less	M 15.5	27.4	0.0	46.6	4.0	13.5
7) Duration of Breast Feeding (Community)						
a) 0-3 Months	0.0	4.7	0.0	0.0	0.0	2.9
b) 3-6 Months	0.0	5.2	0.8	0.0	0.0	0.0
c) 6-9 Months	0.0	14.1	2.5	2.3	0.0	0.0
d) 9-12 Months	0.0	44.3	42.5	4.7	0.0	4.8
e) 12-18 Months	0.0	12.5	31.7	20.9	0.0	16.7
f) 18-24 Months	0.0	10.4	20.8	44.2	0.0	53.6
g) 24-36 Months	0.0	4.2	0.8	23.3	0.0	20.6
h) Other	0.0	3.1	0.0	0.0	0.0	1.0
i) Not Known	0.0	1.6	0.8	4.7	0.0	0.5

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]More than three-fourths the Tunisian mothers begin breast-feeding during the first day after delivery.

[2]Primary reason stated by mothers in Colombia for not giving the breast is because the milk has not yet started.

[3]In Guatemala, this delay is for 6 hours.

the newborn, and it may, as well, delay the development of the sucking reflex. There is a tendency for mothers to breast-feed their children longer in Tunisia, Jordan and Bangladesh, coinciding with the Muslim practice that a child should be nursed up to the age of two years (1). It is interesting to note the difference between the time most mothers believe is necessary to breast-feed and actual practice. This points out a need to closely question the mother as to her own activities, for reasons of accuracy. The longer the period of nursing, the more beneficial it is for these rural infants, since breast milk constitutes the major share of overall protein intake of children up to two years (15).

Nursing patterns are influenced by the health of the nursing mother, as well as of the infant. Between 43% to 68% of the mothers in all countries, except Bangladesh, believe that nursing the infant should be completely omitted when the mother is ill. In Bangladesh approximately a fourth of the mothers believe that nursing should be omitted. The remaining mothers believe that nursing should continue either normally, or in less than normal amounts at this time. The latter is particularly true of mothers in Bangladesh. The practice of withholding the breast may initiate the cessation of breast milk produced; hence, there is a need to stress the importance of continuing nursing despite illness. If the mother feels very ill, she may want to refrain from nursing for a short period, i.e. a day or so; or she may manually express the milk and discard it as a means of alleviating the discomfort. If the mother is under long-term drug treatment for diseases, such as tuberculosis, she should be advised not to nurse.

TABLE XVI - 3 BREAST-FEEDING PRACTICES WHEN MOTHER OR CHILD IS ILL

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1) Breast-feeding Infant When Mother is Ill							
a) No[1]	M	43.8	67.9	56.3*	42.9	48.0	25.6
	C	44.6	47.4	16.7	51.2	43.5	18.2
b) Yes, normally	M	49.1	26.6	25.8	37.8	39.5	33.0
	C	41.0	42.7	67.5	18.6	41.7	21.1
c) Yes, less than normal	M	5.0	2.4	13.5	9.8	9.2	35.3
	C	14.4	8.9	13.3	18.6	7.0	56.5
d) Wet nurse	M	1.7	0.8	2.3	4.9	1.8	1.6
	C	0.0	0.0	0.0	11.6	3.5	3.3
e) Other	M	0.0	0.2	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0	0.0	0.0
f) Not Known	M	0.0	2.1	2.3	4.7	1.5	4.4
	C	0.0	1.0	1.7	0.0	4.3	1.0
2) Reasons For/Against Breast-feeding When Mother is Ill							
a) Illness affects child	M	25.5	21.2	28.3*	17.0	14.0	33.9
	C	18.5	25.5	0.0	27.9	13.9	34.0
b) Child gets ill	M	11.9	42.5	17.8	21.9	34.2	8.7
	C	29.2	19.3	0.0	16.3	28.7	5.7
c) Mother has no milk	M	3.1	0.5	0.8	3.0	3.3	3.6
	C	0.0	0.0	0.0	9.3	0.0	2.4
d) Child needs milk	M	26.9	8.9	5.3	23.8	24.5	19.7
	C	20.0	10.4	0.0	7.0	25.2	15.8
e) Custom	M	7.1	1.4	2.3	2.1	1.3	0.0
	C	10.3	5.7	0.0	0.0	0.0	0.0
f) Someone else's milk won't affect child	M	0.0	0.0	0.5	1.6	2.3	0.0
	C	0.0	0.0	0.0	0.0	0.0	0.0
g) Less milk is given	M	0.0	0.3	0.0	1.6	2.3	0.0
	C	0.0	1.6	0.0	2.3	3.5	0.0
h) Other[2,3]	M	24.5	22.4	35.8	21.0	7.7	25.7
	C	21.0	24.0	1.7	14.0	7.8	36.0
i) Not Known	M	3.3	3.0	9.5	7.9	11.7	8.6
	C	0.0	13.5	98.3	23.3	20.9	6.2

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

[1]Reasons for withholding the breast or nursing the infant less in Bangladesh include: the mother's illness affects the child, or is transmitted to the child via the breast milk, or the mother does not have milk.

[2]Other reasons given by mothers for not breast-feeding in Colombia include: the mother does not have strength/health, or it is bad for her child. Reasons for continuing breast-feeding normally are: the child should be fed; there is nothing else to give the child; it is not harmful to the child; the child does not take any other food or may stop breast-feeding.

[3]Other foods given instead of breast-feeding are: cow's milk, sugar water, infusions, homemade serum, cinnamon water, tea, fruit juice, plain water or nothing.

TABLE XVI -3 (Cont'd.)

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
3)	Breast-feeding When Baby is Ill[4]						
a)	No	M 27.2	34.3	21.5	14.5	26.8	7.6
		C 30.3	20.3	6.7	9.3	19.1	6.7
b)	Yes, normally	M 51.9	55.7	59.3	54.3	60.5	35.1
		C 43.1	50.5	71.7	55.8	66.1	18.2
c)	Yes, less than normal	M 20.4	7.0	18.5	27.3	7.9	52.9
		C 26.7	26.6	20.0	34.9	8.7	75.1
d)	Not Known	M 0.0	2.7	0.8	4.0	4.3	4.0
		C 0.0	2.1	0.8	0.0	6.1	0.0
4)	Reasons For/Against Breast-feeding When Baby is Ill						
a)	Child needs milk	M 20.7	19.7	11.8	31.7	41.6	14.6
		C 21.5	7.3	0.0	37.2	39.1	6.7
b)	Baby given rest	M 2.2	0.0	0.8	11.0	2.6	11.1
		C 0.5	0.0	0.0	2.3	2.6	22.5
c)	Milk causes sickness	M 7.6	4.4	3.8	4.7	15.6	7.0
		C 21.5	5.2	0.8	7.0	10.4	37.8
d)	Other[5]	M 65.5	72.0	44.5	35.4	23.5	51.3
		C 54.4	32.3	0.0	32.6	27.0	25.8
e)	Not Known	M 4.1	3.9	38.0	17.2	14.0	15.9
		C 2.1	55.2	98.4	21.0	20.0	7.3

[4]Reasons for withholding the breast or nursing less include: the infant must be given rest or the milk causes/aggravates the illness.

[5]Other reasons given by mothers for not breast-feeding in Colombia include: the baby is given rest, it makes the child feel bad, the child does not accept it, doctor's orders. Reasons for breast-feeding as normal include: child needs to be fed, mother's milk is not harmful, child does not take any other food, nothing else is available, child accepts breast.

Wet nursing does not appear to occur to any significant degree at this time, except in Tunisia where it occurs to a very small extent.

Differences in reasons for nursing practices during a mother's illness appear in each country. A fourth of the mothers in Peru fear that their illness will affect the child if they continue to nurse, but an almost equal number of Peruvian mothers do continue to breast-feed because the child needs milk. In Colombia most mothers believe their infant will become ill or will be affected adversely if they continue to nurse. A similar trend is seen in Guatemala, Tunisia, Jordan and Bangladesh. Those mothers that do nurse believe the infant needs milk and so continue breast-feeding at this time.

On the other hand the practice of nursing is less restricted when the infant is ill. Approximately one-third of the mothers in Colombia, over one-fourth in Jordan and Peru, and twenty percent in Guatemala, completely withhold the breast at this time. Most of the remaining mothers nurse their infant either normally or in less than normal amounts. The primary reason given for continuation of breast-feeding is that the child needs the milk. The mothers who do not nurse believe that the baby should be given a rest or that the milk causes, or aggravates, the illness. The increased nutrient needs of the infant during illness require the continuation of nursing, and as stated above, withholding the breast may lead to the cessation of milk production, thus causing premature weaning, unless the mother expresses the milk.

c) Bottle Feeding: Besides breast milk, other fluids such as water, herb teas and sugar water are given by bottle.

TABLE XVI - 4 USE OF THE BOTTLE IN INFANT FEEDING

			Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	% Mothers Who Give Fluids via the Bottle	M	44.7	71.4	55.7	28.9	52.0	49.7
		C	79.5	0.0	0.0	0.0	0.0	72.2
2)	Average Age of Starting Bottle-Feeding (Months) Mentioned by Mothers		4.18 ±4.91	2.26 ±3.01	1.81 ±3.11	5.42 ±9.52	4.18 ±5.62	4.81 ±7.97
3)	Introduction of Bottle-feeding Mentioned by Community Influentials							
	a) 0-3 Months		0.0	79.2	64.2	37.2	45.0	54.1
	b) 3-6 Months		0.0	10.9 (4-6 mos.)	17.5	30.2	20.0 (4-6 mos.)	17.2 (4-6 mos.)
	c) 6-9 Months		0.0	0.5 (7-9 mos.)	6.7	0.0	7.8 (7-9 mos.)	0.0
	d) 9-12 Months		0.0	1.6 (10-12 mos.)	0.0	2.3	4.3 (10-12 mos.)	0.0
	e) Over 12 Months		0.0	1.0	0.8	0.0	8.7	1.0
	f) Not Known		0.0	6.8	10.0	30.2	13.9	27.8
4)	If Milk is Given via the Bottle, What Kind?							
	a) Evaporated/Dry/ Condensed	M	18.0	17.2	20.0	13.8	38.5	7.9
		C	30.8	22.9	18.3	44.2	84.3	2.4
	b) Fresh milk	M	22.4	48.7	28.3	7.9	4.1	28.6
		C	35.4	58.9	45.0	20.9	1.7	65.6
	c) None of the above/or not known	M	59.6	34.1	51.8	78.2	56.9	63.6
		C	33.8	18.2	36.6	34.9	13.9	32.1
5)	Substitute for Mother's Milk							
	a) Bottle	M	0.0	93.9	95.3	0.0	70.2	87.0
		C	0.0	96.4	0.0	0.0	88.7	90.0
	b) Wet nurse	M	0.0	0.0	0.5	0.0	2.0	0.4
		C	0.0	0.0	0.0	0.0	2.6	0.5
	c) Other	M	0.0	4.5	2.5	0.0	22.7	7.0
		C	0.0	2.6	0.0	0.0	3.5	9.1
	d) Not Known	M	0.0	0.8	1.8	0.0	4.8	4.9
		C	0.0	1.0	0.0	0.0	5.2	0.5

Approximately half the mothers in Guatemala, Peru and Colombia start this practice as early as the first month. If milk is given by bottle, there is a greater tendency to give fresh milk in all countries, except in Tunisia and Jordan where processed milk, such as evaporated, dry or condensed milk, is used instead. The respondents in Guatemala and Peru appear to be almost equally divided between giving fresh and evaporated/dry/condensed milk by bottle. If the mother cannot breast-feed the infant, most believe the bottle is the substitute rather than wet nursing. Other reasons mentioned by mothers for using the bottle include: the child needs other foods; the child refuses the breast; to accustom the child; the child is still hungry; habit; mother works; to feed/nourish the child better; the child prefers other foods; and the bottle is easy to prepare. The sanitary conditions of these foods, the water used in their preparation, their appropriate dilutions, and the cleanliness of the nursing bottles are very important in such situations to keep diarrhea episodes, infection and malnutrition to a minimum.

d) Weaning Practices: Data on infant weaning practices are presented in Table XVII. In approximately forty percent of the households in all six countries weaning is a gradual process done by slowly introducing other foods into the diet, or by discouraging the child by gradually withholding the breast. However, approximately forty percent of the Peruvian, Tunisian, Jordanian and Bengali families also use abrupt measures of weaning which include:

TABLE XVII INFANT WEANING PRACTICES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	Methods of Weaning						
a)	Introduce new food gradually	M 39.6	41.1	42.5*	38.2	46.7	36.4
		C 31.3	49.5	59.2	34.9	28.7	30.6
b)	Introduce new food abruptly	M 5.9	7.4	2.5	11.0	6.6	10.7
		C 1.0	7.3	10.0	4.7	13.0	12.4
c)	Send child away	M 7.6	4.7	2.0	0.1	1.0	0.3
		C 24.1	6.3	0.8	0.0	3.5	0.0
d)	Apply bitter substance to breast	M 19.5	9.7	7.6	27.3	33.4	35.7
		C 31.3	17.2	8.3	48.8	33.9	51.2
e)	Withhold breast	M 12.4	0.0	0.0	2.3	1.3	0.0
		C 5.1	0.0	0.0	0.0	3.5	0.0
f)	Discourage child; slowly withhold breast	M 0.0	7.7	6.3	0.0	0.0	1.7
		C 0.0	2.1	10.8	0.0	0.0	0.0
g)	Other punishment methods	M 0.0	0.0	0.0	3.7	0.0	0.9
		C 1.5	0.0	0.0	0.0	0.0	5.3
h)	Mother/child sick	M 0.9	0.0	3.8	0.2	0.0	0.4
		C 0.0	0.0	0.0	0.0	0.0	0.0
i)	Other[1]	M 11.3	18.9	29.3	14.7	9.2	8.3
		C 5.1	15.6	6.7	11.6	9.6	0.5
j)	Not Known	M 2.3	10.4	0.0	1.6	1.3	5.4
		C 0.5	1.6	0.8	0.0	7.0	0.0
2)	Reasons for Weaning, Actual Practices (Mothers)						
a)	New pregnancy	14.6	10.0	0.0*	63.2	0.0	60.0
b)	New birth	0.3	0.0	0.0	1.6	0.0	0.0
c)	Illness of child/mother	5.6	10.0	0.0	6.3	0.0	1.0
d)	Mother works	6.3	1.8	0.0	0.5	0.0	0.1
e)	Insufficient milk	5.1	17.4	0.0	2.8	0.0	4.0
f)	Child eats other foods	32.8	25.4	0.0	10.5	0.0	10.8
g)	Child refuses breast	3.1	9.2	0.0	1.4	0.0	4.0
h)	Child not yet weaned	17.3	6.2	0.0	0.0	0.0	0.0
i)	Muslim teaching	0.0	0.0	0.0	0.0	0.0	10.3
j)	Other[2]	13.5	18.4	0.0	6.9	0.0	1.6
k)	Not Known	1.1	1.5	0.0	6.1	0.0	7.4

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Other methods used by mothers in Colombia include: the child rejected the breast; the mother or the child was sick; the mother did not have enough milk; the mother separated herself from the child; resort to other punishable methods.

[2]Other reasons given by mother in Colombia include: the child becomes spoiled, disobedient/bad tempered/rude; new birth, mother's figure, health worker's advice, embarassing to breast-feed.

introducing foods abruptly into the child's diet; withholding the breast; applying bitter substances on the breast; and sending the child away. The primary reason for weaning is a new pregnancy. The birth of a new baby, the child's or mother's illness, the mother's work, insufficient milk, the eating of other foods by a child who is old enough to do so, are some of the other reasons for weaning.

The mothers' reasons for weaning their own children coincide with the reasons stated above, with the majority of mothers citing a new pregnancy, the ability of the child to eat other foods, the actual eating of other foods by the child, and insufficient milk as primary reasons. A number of other mothers stated the child had not yet been weaned. Table XVIII presents the age at which other foods are introduced into the infant's diet.

TABLE XVIII AGE OF INTRODUCING OTHER FOODS IN THE INFANTS DIET

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1) Average Age for Introducing Other Foods (Months)		* 6.14 ±2.94	4.62 ±3.64	* 6.08 ±2.72	10.40 ±7.58	7.71 ±6.39	7.14 ±6.20
2) % Distribution of Households Introducing Other Foods							
a) 3 Months	M	15.6	47.0	17.9	14.6	16.1	27.7
	C	21.0	40.1	19.2	7.0	10.4	54.1
b) 4-6 Months	M	57.3	34.5	45.8	29.3	50.2	31.7
	C	34.4	39.6	42.5	20.9	33.0	17.7
c) 7-9 Months	M	14.6	9.9	27.1	12.1	8.2	12.3
	C	25.1	9.9	23.3	32.6	14.8	4.3
d) 10-12 Months	M	8.9	6.9	7.6	21.7	11.5	13.3
	C	9.7	7.3	4.2	11.6	14.8	3.8
e) 13-24 Months	M	1.4	1.9	0.8	19.3	12.1	6.3
	C	6.2	1.0	9.2	4.6	11.3	17.2
f) 25-36 Months	M	0.0	0.0	0.0	1.7	0.8	1.5
	C	2.0	0.5	1.7	9.3	2.6	1.4
g) Not Known	M	2.4	0.4	1.3	0.8	1.3	6.6
	C	1.5	1.5	0.0	13.9	13.1	1.0

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

Other foods are introduced in the infant's diet at an average age of 5 months in Colombia, 6 months in Guatemala and Peru, 7 months in Bangladesh, 8 months in Jordan and 10 months in Tunisia. A further analysis indicates that a large number of mothers introduce foods after 7 months in all countries, and the number of those introducing foods after 13 months is particularly significant in Tunisia. This trend toward later introduction of foods is also seen in Jordan and Bangladesh. As has been documented, the mother's milk is generally sufficient in meeting the nutrient needs of infants 4 to 6 months of age, after which there is a need to supplement breast milk with other foods. A lack of this supplementation will invariably cause nutritional deficiencies, and the longer the supplementation is delayed, the greater are the chances for the onset of malnutrition.

TABLE XIX FIRST FOOD INTRODUCED TO THE INFANT

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1) First Food Given to the Infant							
a) Dairy products	M	3.3	39.7	6.5	4.7	21.2	65.7
	C	11.3	20.9	4.2	14.0	16.6	45.9
b) Rice/Flour/ Bread/Bulgur	M	32.4	18.8	14.5	14.9	28.8	9.9
	C	20.5	17.7	22.5	9.3	35.7	16.7
c) Barley/Sago	M	0.0	0.0	0.0	0.0	0.0	14.7
	C	0.0	0.0	0.0	0.0	0.0	12.0
d) Fruits	M	8.4	10.5	10.0	0.0	8.9	0.0
	C	8.8	16.7	5.0	0.0	5.2	0.0
e) Meat	M	0.0	12.7	0.0	2.8	1.8	0.0
	C	0.0	15.6	0.0	0.0	0.9	0.0
f) Legumes	M	0.0	0.0	0.0	0.0	2.8	0.0
	C	0.0	0.0	0.0	0.0	1.7	0.0
g) Vegetables	M	0.0	0.0	0.0	7.9*	14.3	0.0
	C	0.0	0.0	0.0	2.3	15.7	0.0
h) Tubers	M	30.8	0.0	0.0	0.0	0.0	0.0
	C	27.7	0.0	0.0	0.0	0.0	0.0
i) Cookies/ Biscuits	M	0.0	0.0	0.0	38.2	0.0	0.0
	C	0.0	0.0	0.0	53.5	0.0	0.0
j) Teas/Infusions/ Broths	M	2.9	1.7	8.5	0.0	0.0	0.0
	C	5.1	2.1	16.7	0.0	0.0	0.0

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

TABLE XIX (Cont'd.)

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	First Food Given to the Infant (Cont'd.)						
	k) Other[1]	M 21.1	15.0	54.8	18.3	12.8	5.5
		C 15.9	24.0	44.2	13.9	10.4	24.8
	l) Not Known	M 0.0	1.4	5.6	13.3	9.4	3.4
		C 10.8	3.1	7.5	7.0	13.9	0.0
2)	Preparation of Food						
	a) Gruel/Porridge	M 38.5	0.0	23.8	42.4	23.0	* 5.2
		C 40.0	0.0	17.5	72.1	16.5	0.0
	b) Cooked/Mashed/ Boiled	M 6.8	9.4	28.3	13.1	46.2	51.7
		C 10.3	8.3	35.8	2.3	37.4	39.2
	c) Uncooked/ Mashed	M 0.0	0.0	3.8	0.0	1.3	2.1
		C 0.0	0.0	1.7	0.0	3.5	4.3
	d) Juice	M 3.6	6.4	3.0	2.1	5.4	0.0
		C 1.5	7.3	2.5	0.0	3.5	0.0
	e) Diluted	M 10.5	27.7	3.5	11.2	6.1	35.6
		C 8.7	12.0	2.5	2.3	12.2	31.1
	f) Regular Cooked Food	M 0.0	5.9	0.3	3.5	7.7	0.0
		C 2.6	12.0	3.3	2.3	8.7	0.0
	g) Soups/Broths	M 0.0	37.5	0.0	0.0	0.0	0.0
		C 0.0	41.1	0.0	0.0	0.0	0.0
	h) Other[2]	M 2.8	11.7	32.8	9.6	2.8	1.1
		C 26.2	15.6	26.7	9.3	1.7	15.3
	i) Not Known	M 37.3	1.5	5.8	17.5	7.7	4.1
		C 10.8	3.6	10.0	11.6	16.5	9.1
3)	Reasons for Introducing the Food						
	a) Child needs more food/for growth/healthy	M 44.8	6.5	24.1	26.3	60.9	* 17.3
		C 20.0	6.8	34.2	41.9	35.7	49.3
	b) Strengthening/ Bloodgiving	M 9.6	13.2	9.6	26.4	22.7	36.9
		C 9.3	9.9	9.2	18.6	36.5	14.4
	c) Insufficient Milk	M 5.6	4.5	0.3	14.7	3.6	37.1
		C 2.1	5.7	1.7	11.6	4.3	11.5

[1]Other foods given to infants in Bangladesh include: Glaxo and Horlick. Other foods mentioned by mothers in Colombia include: potatoes, beans, carrots, bread, brown sugar, vegetables.

[2]Other preparations mentioned by mothers in Colombia include: Coladas (soups or fruit drinks, depending on region), infusions.

The first foods given are usually cereals or tubers in Peru, fresh milk and cereals in Colombia, cereals in Guatemala, Cookies/biscuits and cereals in Tunisia, certain dairy products (e.g. milk, yogurt), cereals and vegetables in Jordan, and fresh milk and barley/sago in Bangladesh. The introduction of fruits/juices occurs to some extent in all countries except Tunisia and Bangladesh. Meat is given by some mothers in Colombia, as are vegetables in Tunisia, and teas/infusions in Guatemala.

The prepared foods that are first introduced into the child's diet are in the form of gruels or porridge in Peru and Tunisia; diluted milk, soups and broths in Colombia; cooked/mashed/boiled foods in Guatemala, Jordan and Bangladesh; and diluted milk in Bangladesh.

Supplemental foods are introduced primarily because the mother recognizes that the child needs more food for growth/health; the foods have strength/blood-giving qualities; and the mother has insufficient milk.

Most children are on an adult diet by 14 to 25 months of age. As is the case with supplementary foods, there is a tendency to give the child adult food later in Tunisia, Jordan and Bangladesh. The child is introduced to adult food because the child is now able to chew and digest the food, or because the child likes adult food or needs adult food for growth/health/strength. With the exception of Bangladesh, where this question was not asked, there were slight but not significant differences

in the age mothers stated first foods should be introduced, and the actual age when they introduced these foods to their own children. The mothers' actual reasons for giving adult foods to their children coincide with the above-stated reasons.

TABLE XX AGE OF INTRODUCING ADULT FOODS IN THE INFANT'S DIET

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	Average Age of Introducing Adult Foods (Months)	16.05 ± 8.16	15.37 ± 8.25	14.47 ± 9.61	22.21 ±15.04	16.77 ± 8.24	24.99 ±12.66
2)	% Distribution of Households Introducing Adult Foods						
	a) By 12 Months	M 58.8	64.5	71.3	26.1	50.0	26.9
		C 67.7	59.9	63.3	2.3	35.6	17.7
	b) 12-24 Months	M 34.8	30.1	22.4	54.6	43.5	32.6
		C 19.5	17.7	32.5	25.6	37.4	25.8
	c) 25-36 Months	M 4.0	4.4	3.1	13.3	4.6	30.7
		C 2.6	3.6	1.7	48.8	12.2	43.5
	d) After 36 Months	M 1.2	1.1	2.2	5.7	1.1	6.4
		C 9.7	18.2	2.5	16.3	8.7	12.4
	e) Not Known	M 1.1	0.3	0.8	0.0	1.0	2.7
		C 0.5	0.5	0.0	7.0	6.1	0.5
3)	Reasons for Introducing Adult Food						
	a) Child can digest food	M 29.6	20.9	* 24.0	17.9	59.2	* 39.1
		C 21.0	31.8	26.7	55.8	49.6	66.0
	b) Child can chew food	M 29.9	33.4	18.3	10.3	15.6	21.1
		C 16.4	19.8	41.7	4.7	13.0	1.4
	c) Child likes adult food	M 7.9	6.8	0.3	18.6	1.8	2.7
		C 3.6	4.2	0.0	2.3	0.9	2.9
	d) Child needs adult food for growth/strength/health	M 1.5	1.8	2.8	21.0	6.9	26.3
		C 6.2	2.1	1.7	4.6	8.7	22.9
	e) Child refuses baby food	M 0.0	0.0	0.3	4.4	1.8	1.1
		C 0.0	0.0	0.0	2.3	1.7	0.0
	f) Other[1]	M 28.3	35.5	48.8	12.8	8.7	5.3
		C 50.3	32.3	17.5	23.0	7.8	5.7
	g) Not Known	M 2.2	0.6	5.8	15.0	6.1	3.9
		C 2.5	9.4	12.4	7.0	18.2	1.0

*Responses are significantly different between mothers and community influentials ($P < .05$).

[1]Other reasons given by mothers in Colombia include: the child must get used to eating everything; the child is now able to eat by himself; the child now eats everything; habit; the child is older and will no longer choke on the food; the food is no longer harmful.

Beneficial and harmful foods for children 0-2 years of age are presented in Table XXI. More foods are mentioned as beneficial

TABLE XXI FOOD CONSIDERED BENEFICIAL/HARMFUL FOR CHILDREN 0-2 YEARS OF AGE, EXPRESSED IN NUMBER OF TIMES MENTIONED[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Foods						
Boiled Milk	132	107	78	174	247	454
Raw Milk		26				
Maternal Milk	21	37				
Butter				27		
Cheese				26		
Leban/Lebaneh/Jamed/ Yogurt					25	
All Meat	25					73
Beef		51				
Lamb/Goat/Beaf					32	
Eggs (Hen)	55	111	37	101	91	
All Fish						39
Certain Animal Foods						152
2) Grains & Staples						
Rice/Bulgur					85	
Rice/Rice Pudding						37
3) Vegetables & Fruits						
Fruits/Juices	19	38		15		24
Apples/Bananas					55	
Banana						89
4) Other Foods						
Certain Beverages		78				
Incaparina			42			
Cookies				49		
S'men				33		

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.
[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list

TABLE XXI (Cont'd.)

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
HARMFUL FOOD:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Food						
All Fish/All Meat						43
Eggs/Certain Animal Food				19		55
Boal						37
2) Legumes						
Dry Beans	18	28	20			
3) Vegetables & Fruits						
Chili Peppers						45
Potato		24				
Avocado		24				
Certain Fruits		29		32		
Citrus Fruits				33		
4) Other Foods						
Spices					27	
Harissa				138		
Pepper				39		
Lard				36		

than harmful in all the countries. Of these beneficial foods, milk and other animal protein foods such as eggs rank high throughout, as do certain fruits, rice and bulgur. These foods are considered to be beneficial because they help growth, are blood-giving/nourishing/healthy/strengthening, are "Strong/Weak" foods, are "Hot/Cold" foods, or are favored by the child. The beneficial foods are believed to be beneficial at all times rather than beneficial only during certain times as in illness
A large number of mothers confirmed giving these foods to their own children. The few who did not, cited cost and availability as major constraints for excluding them from the diet.

Dry beans are considered harmful food in Peru, Guatemala and Colombia, while pepper and spices are generally believed to be harmful in Tunisia and Jordan. In Bangladesh some mothers stated that all meat, fish (particularly boal), and other animal foods are harmful; as are eggs and lard in Tunisia; potatoes and avocado in Colombia; and some fruits in both Colombia and Tunisia. The food is believed to be harmful because it is difficult to digest, causes diarrhea/vomiting, is "Hot or Cold", "Weak or Strong", causes sterility, retards growth or has a harmful effect. Fish is presumably avoided because of its small bones. Most foods are considered harmful at all times, except in Bangladesh where a significant number of respondents stated that certain foods, probably meat, fish and other animal proteins, are only harmful during illness. Most mothers confirmed avoiding these foods in their children's diet. Again, in the few instances where the food was given, it was because the mother did not believe in the food's harmful effect, or because it was the only food available, or because the child liked the food.

e) Child Feeding

Feeding patterns of older preschoolers are presented in Table XXII.

TABLE XXII CHILD FEEDING PRACTICES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1) Who Feeds Child[1]							
a) Mother	M	77.6*	90.6	90.8	77.2	91.3	56.0*
	C	66.2	90.5	96.7	72.1	87.0	98.6
b) Grandmother	M	2.5	1.4	1.3	14.2	3.1	24.7
	C	4.1	0.5	0.0	25.6	7.0	0.5
c) Older Child	M	3.9	1.7	4.8	3.3	2.0	10.6
	C	19.0	1.6	0.0	0.0	0.0	1.0
d) Other Woman	M	3.2	2.9	0.8	2.3	1.3	5.1
	C	1.5	2.6	0.8	0.0	0.9	0.0
e) Father	M	11.5	2.7	1.8	2.1	1.5	1.4
	C	9.2	3.6	2.5	0.0	0.0	0.0
f) Not Known	M	0.9	0.3	0.5	0.0	0.8	1.4
	C	0.0	0.5	0.0	2.3	5.2	0.0
2) Source of Advice for Child Feeding							
a) By observation	M	48.5	44.0	47.8	38.5	80.1*	31.3
	C	46.2	41.1	33.3	23.3	47.0	3.3
c) Mothers/Mother-in-Law	M	40.4	37.1	40.0	41.7	10.2	56.9
	C	40.5	31.2	37.5	58.1	16.5	58.4
d) Health Worker	M	3.3	10.9	9.3	2.8	3.6	1.1
	C	3.6	11.5	20.0	2.3	12.2	0.0
e) Older Woman	M	2.6	3.9	0.5	2.3	1.0	7.4
	C	3.1	2.1	5.8	0.0	7.8	35.4
f) Other mothers	M	2.0	0.0	0.0	0.2	1.0	0.0
	C	2.6	0.0	0.0	0.0	3.5	0.0
g) Local Healer	M	0.0	0.0	0.3	0.4	0.5	0.9
	C	0.5	0.0	0.0	11.6	2.6	1.0
h) Husband/father	M	0.8	0.0	0.3	0.5	0.3	1.3
	C	3.1	0.0	1.7	0.0	0.9	0.5
i) Other	M	1.7	3.5	0.5	12.1	2.6	0.6
	C	0.5	13.5	1.7	2.3	5.2	0.0
j) Not known	M	0.8	0.2	1.5	0.4	0.3	0.3
	C	0.0	0.5	0.0	0.3	4.3	0.5

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Reasons for the mother not feeding the child in Bangladesh include: the mother is busy, the mother works, the mother is away, or the grandmother cares for the child.

Over ninety percent of the mothers in Colombia, Guatemala and Jordan; and three-fourths of the mothers in Peru and Tunisia, customarily feed their own children. In Bangladesh, approximately half the mothers are involved in feeding their children, and in approximately a fourth of the households, the grandmothers may substitute for the mothers. Grandmothers also have this role in Tunisia, and an older sibling or other woman in the family may also substitute when the mother is working or otherwise busy. The mother's knowledge of child feeding is usually acquired by observing other women, or through advice from her own mother or mother-in-law. Minimal information is received from the health worker or local healer.

Table XXIII lists foods believed to be beneficial or harmful for the older preschooler 3 - 6 years of age. Generally, foods are mentioned less often as being either beneficial or harmful for this age group than for their younger siblings, suggesting that food regulations are directed more toward the infants and toddlers than toward their older siblings. Foods believed to be beneficial, along with reasons for their being considered beneficial, are similar to those mentioned for the 0 - 2 year age group.

Comparatively few foods are mentioned as being harmful, and the few foods listed by mothers in large enough numbers appear only for Bangladesh.

TABLE XXIII FOOD CONSIDERED BENEFICIAL/HARMFUL FOR CHILDREN AGED 3 - 6 YEARS EXPRESSED IN NUMBER OF TIMES MENTIONED[1,2]

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
BENEFICIAL FOODS:	n=841	n=853	n=520	n=471	n=507	n=910
1) Animal Origin Food						
Milk (boiled)	90	93	65	94	129	420
Yogurt				44		
Leban/Lebaneh/Ghee/S'men					34	
Meat	27					257
Beef		49		10		
Beef/Goat/Lamb					69	
Lamb				26		
Eggs (Hen)/Certain Animal Protein	35	80	29	83	76	217
Fish						174
2) Grains & Staples						
Rice/Bulgur					85	
Rice/Rice Pudding						74
3) Vegetables & Fruits						
Certain Vegetables				26		
Potatoes					86	
Tomatoes/Onions					36	
Bananas/Apples					44	
Banana						48
4) Other Food						
Incaparina			43			
Certain Beverages		38				
HARMFUL FOODS:						
1) Animal Origin Food						
All Fish						46
Boal						42
2) Legumes						
Khesari						28
3) Vegetables & Fruits						
Chili Peppers						27

[1]Each respondent gave 3 examples of beneficial/harmful foods. The number of times each food was mentioned was totalled.
[2]Beneficial foods mentioned less than 25 times in all 6 countries have been eliminated from the list.

f) Health Practices

Table XXIV presents information on purging children aged 0 - 6 years.

TABLE XXIV CHILDHOOD HEALTH PRACTICES

		Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
1)	% of Mothers who Purge Their Children	M 67.8*	77.8	85.0*	19.8	78.6	68.7*
		C 75.9	76.0	82.5	18.6	71.3	73.2
2)	When Purged[1]						
	a) At Birth	M 16.1*	4.8	37.9	0.0	43.6	17.0*
		C 9.7	4.6	30.1	0.0	29.6	3.4
	b) During Fever	M 14.9	1.4	2.4	6.2	5.2	17.9
		C 2.6	6.7	2.5	0.0	3.6	15.8
	c) During Diarrhea	M 11.6	8.3	16.3	2.1	3.4	9.1
		C 1.5	9.3	20.9	0.0	0.9	0.0
	d) During Constipation	M 29.2	3.2	1.3	8.6	23.5	48.9
		C 21.5	11.0	4.2	20.9	26.9	81.8
	e) Periodically	M 0.0	16.9	9.8	0.0	9.5	0.0
		C 0.0	10.4	0.8	0.0	13.9	0.0
	f) Other[2]	M 0.0	43.1	19.5	0.0	0.0	0.4
		C 0.0	44.8	37.5	0.0	0.0	0.0
	g) Not Known	M 0.0	21.6	16.6	81.1	21.7	26.9
		C 0.0	17.2	16.7	79.1	29.6	12.9
3)	Reasons for Purging						
	a) Child is unclean	M 12.3*	8.6	9.8*	3.7	46.9	9.4*
		C 28.7	4.7	19.2	2.3	50.4	11.5
	b) Food causes Fever	M 46.6	1.8	1.3	7.4	10.0	13.7
		C 1.5	0.5	6.7	14.0	2.6	16.8
	c) Constipation causes fever/ is unhealthy	M 3.9	0.0	0.3	5.3	15.2	21.5
		C 8.2	0.0	0.0	2.3	8.7	57.4
	d) Upset stomach	M 46.0	5.3	2.3	9.3	13.8	18.4
		C 10.3	3.1	0.8	18.6	10.4	16.8
	e) Other[3]	M 0.0	61.7	67.0	0.0	0.0	0.0
		C 0.0	70.3	45.0	0.0	0.0	0.0
	f) Not known	M 0.0	21.8	20.0	81.0	21.7	46.9
		C 0.0	20.8	28.4	79.1	29.6	12.9

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Mothers may purge during one or several of these periods.

[2]Other periods mentioned by Colombian mothers include one or a combination of several of the following: reaches the first year; periodically every 6 months; doctor's orders; when the child is sick, vomits, or has diarrhea or fever; at birth; or when child has stomach upsets.

[3]Other reasons given by Colombian mothers include: to expel the parasites; prevent parasites; doctor's orders; to cleanse stomach; to avoid disease.

More than three-fourths of the mothers in Colombia, Guatemala and Jordan, and over two-thirds of those in Peru and Bangladesh, purge their children. In Tunisia, however, purging is not extensively practiced.

A large number of mothers in Guatemala and Jordan purge their infants at birth. This is done less extensively in Bangladesh and Peru, and rarely in Colombia. Purging at birth is done primarily to clean out the infant's stomach. Many purge their children during periods of constipation in Guatemala, Jordan and Bangladesh, because constipation is unhealthy, the child is considered unclean, or the child has an upset stomach. In some instances, mainly in Colombia, the child is purged periodically, even though healthy (e.g. when the child reaches his first year, every six months, etc.), to cleanse the stomach, to expel parasites/prevent parasites, or to avoid disease/upset/stomach/fever. During episodes of diarrhea some Guatemalan mothers purge their children, with few mothers purging in Peru, Bangladesh and Colombia. This practice of purging, particularly when the child has diarrhea, can be very detrimental, if not life-threatening, since the child is already losing excessive body fluids, and further purging will only hasten dehydration.

g) Beneficial and Harmful Foods for Specific Illnesses

Foods especially given or avoided for children during diarrhea/vomiting are shown in Table XXV-1.

TABLE XXV - 1 FOODS GIVEN OR AVOIDED DURING EPISODES OF DIARRHEA/VOMITING

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Foods Given[1]	* Teas/Infusions/Broths Certain Prepared Foods	Teas/Infusions/Broth	* Atoles	Rice/Rice Preparations Fenugreek Milk/Milk Products	Teas/Infusions, Rice/Rice Preparations Potatoes Milk/Milk Products	* Barley/Sago Fruit Glucose Solution
Reasons[2]	* Cures condition Makes child feel better "hot" food	Cures condition Makes child feel better	* Makes child feel better	Makes child feel better Treats symptoms	Treats symptoms	* Cures conditi "cold" food
Food Avoided[1]	Milk/Milk Products	Milk/Milk Products Certain Beverages	* Milk/Milk Products Beans	Milk/Milk Products Harissa Pepper	Milk/Milk Products Beef/Goat/Lamb Sugar/Molasses	Rice Beef/Goat/Lam
Reasons[2]	* Illness gets worse Makes child feel worse	Illness gets worse Makes child feel worse	* Illness gets worse Makes child feel worse	Illness gets worse Child feels better when these foods are avoided	Illness gets worse	Illness gets worse "hot" food
Source of Information[3]	Observing Others Mother/Mother-in-law Doctor/Nurse Older women	Observing Others Mother/Mother-in-law Doctor/Nurse Older women	Observing Others Mother/Mother-in-law Doctor/Nurse	Mother/Mother-in-law Doctor/Nurse LocalHealer Husband/father	Mother/Mother-in-law Doctor/Nurse LocalHealer Older woman	Observing Mother-in-law Doctor Nurse LocalHealer Older woman

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Foods mentioned by less than 4% of the mothers are omitted. When over 4% of the mothers mentioned foods in the 'other' category, it was not possible to specifically identify them.

[2]Reasons given by less than 4% of the mothers are omitted. Reasons mentioned in the other category were not identified.

[3]Sources of information mentioned by less than 4% of the mothers are omitted from the table.

Approximately three-fourths of the mothers give special foods to their children when they have episodes of diarrhea and vomiting, except for those in Guatemala, where the practice occurs less frequently. In Peru these special foods are teas/infusions and certain prepared foods; in Colombia teas/infusions, while in Guatemala they are primarily atoles. Rice, fenugreek and milk products are given in Tunisia for these ailments; potatoes, rice and rice preparations, and milk products are given in Jordan; and barley/sago, fruits and glucose solutions are given in Bangladesh. The beneficial foods are believed to stop the episodes, make the child feel better, and treat the symptoms. In some cases, they are thought to possess either "Hot" or "Cold" qualities.

Foods specifically omitted during this period are milk/milk products in all countries, except Bangladesh. Beef/goat/lamb and rice are avoided at this time in Bangladesh, as are certain beverages in Colombia, beans in Guatemala, harissa and peppers in Tunisia, and meats and sugar/molasses in Jordan. These foods are considered harmful because they cause episodes of diarrhea/vomiting, make the child feed bad, and because when omitted from the diet the child feels better. These foods may also possess "Hot" food properties as cited in Bangladesh. Observation of other mothers, the mother-in-law, the doctor/nurse or an older woman, is the primary source of information for following these practices. In Tunisia and Bangladesh, the local healer is also mentioned, as is the husband/father in Tunisia.

Foods specifically considered beneficial by some mothers during fevers, presented in Table XXV-2, are herbal infusions and broths in Peru and Colombia; atoles in Guatemala; fats/olive oil and eggs in Tunisia; milk products and lemon in Jordan; and milk/milk products, wheat and other cereals, presumably barley/sago, in Bangladesh. As in the case of diarrhea, these foods are believed to have medicinal qualities in curing the illness, making the child fee

TABLE XXV-2 FOODS GIVEN OR AVOIDED DURING FEVER

	Peru	Colombia	Guatemala	Tunisia	Jordan	Bangladesh
Foods Given[1]	* Certain beverages/ herbal infusions/teas	Certain beverages/ herbal infusions/teas	* Certain preparations/ atoles	Olive oil/ fats Eggs	Milk/milk products Lemon	Milk/milk products Wheat Other cereals
Reasons[2]	* Cures illness Makes the child feel better "Cold" food	Cures illness Makes the child feel better	Makes the child feel better	Makes the child feel better Treats symptoms		* Cures illness Makes the child feel better
Foods Avoided[1]	* Certain beverages/ cold drinks	Milk/milk products Certain beverages/ cold drinks	* Milk/milk products Eggs	M'hamsa/ Couscous Harissa	Eggs	* Rice Fats/oil
Reasons[2]	Illness gets worse Makes child feel bad	Illness gets worse Makes child feel bad	Makes child feel bad	Illness gets worse	Illness gets worse	Illness gets worse "Cold" food
Source of Information	* Observing others Mother/ mother-in-law Doctor/nurse Older women	Observing others Mother/ mother-in-law Doctor/nurse Older women	* Observing others Mother-in-law Doctor/nurse	Mother-in-law Doctor/ nurse Older women	Mother/ mother-in-law Doctor/nurse Older women	* Observing others Mother/mother-in-law Doctor/nurse Local healer Older women

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

[1]Foods mentioned by less than 4% of the mothers are omitted from the table. Foods mentioned in the "other" category were not specifically identified.

[2]Reasons given by less than 4% of the mothers are omitted and those mentioned in the "other" category were not specifically identified.

[3]Sources of information mentioned by less than 4% of the mothers are omitted from the table.

better by treating symptoms or having "Cold" qualities, the latter being mentioned primarily in Peru.

Foods avoided by some mothers during this time are certain types of beverages/cold drinks in Peru; milk/milk products and beverages/cold drinks in Colombia; milk/milk products and eggs in Guatemala; m'hamsa/couscous and harissa in Tunisia; eggs in Jordan; rice and fats/oils in Bangladesh. Similar reasons for avoiding the foods are cited as in the case of diarrhea and vomiting, along with their primary sources of information for following these practices.

IV. COMPARISON OF RESPONSES BY THE MOTHERS AND THE COMMUNITY INFLUENTIALS

A comparison of responses between mothers and community influentials was made to verify whether significant differences exist between the two groups of respondents. This information can be used to determine if the community influentials are knowledgeable enough to serve as the sole source of information for further studies.

Overall, there is a general trend toward agreement in the responses. The extent of this similarity varies from country to country. Few significant differences exist in Peru, Colombia, Tunisia and Jordan, as compared to Guatemala and Bangladesh.

Specific areas where responses vary most widely are as follows:

A) Food Consumption Patterns

Few significant differences appear in this category in Peru, Colombia, Tunisia and Jordan. Those that do are connected to seasonal variations which affect consumption of a particular food. Differences occur frequently in Guatemala in most food classes. This is also true in Bangladesh, but to a somewhat lesser extent. These dissimilarities are not due to a complete disagreement in the responses, but rather to differences in distribution of responses For example, 60.8% of the Guatemalan mothers list rice as the second most common cereal as opposed to 40.8% of the community influentials Although a significant difference exists in the percentage of

respondents citing rice, the majority, in both groups, do, in fact, mention rice as the second cereal.

B) Food Production, Purchasing, Cooking and Storage Practices

Although the community influentials can usually estimate the number of households producing food for home consumption, the extent to which these households produce animal and vegetable food is more difficult to estimate. This is particularly true in Peru and Jordan, where significant differences appear in household food production. The differences in Jordan may also be influenced by the large number of men employed by the military. These men are not part of the Jordanian agricultural economy, and their employment situation might contribute to the community influential's difficulty in accessing hom production.

Food storage is an area of difference in Bangladesh. Again, in spite of dissimilarities, there is a similar trend in responses by both groups.

C) Food Behavior Patterns

Differences appear in the Latin American countries of Colombia and Guatemala in the area of "food restrictions due to religious events". Because the events leading to these food restrictions occur only a few days a year, food avoidance at these times does not have a particularly significant effect on the diet.

In Bangladesh there are some differences in the number of meals/snacks consumed by children under six years, and also in

preference for "at risk groups". As in Latin America, the difference in food restrictions because of religious events is not significant.

D) Special Dietary Practices of Vulnerable Groups

In the sections Pregnant/Post Partum/Nursing Women, there is almost complete agreement between mothers and community influentials in Peru, Guatemala, Tunisia and Jordan. The differences in Colombia and Bangladesh are due to the reasons for following a particular food practice during the vulnerable period.

There is complete agreement in all six countries with reference to neonatal feeding practices.

Both groups of respondents are almost completely in accord about infant feeding. There are some problems in Jordan, however, identifying the source of information for child feeding. Peruvian community influentials seem to have difficulty in estimating the ag when certain foods are introduced, the duration of breast-feeding, and who feeds the child. Significant differences in Bangladesh are primarily in regard to first foods given to the infant, food preparation and reasons for their introduction to the diet, and who feeds the child.

E) Childhood Health Practices

Significant differences appear in this section in Peru, Guatemala, and Bangladesh in purging details and foods considered to be beneficial/harmful for children during diarrhea/vomiting and fever. Community influentials in these three countries are not

aware of the mothers' practices regarding purging or the foods given or rejected during child's illness. This lack of awareness contrasts with the responses in Colombia, Tunisia and Jordan, where there is close agreement in this area.

In conclusion, the general trend of the compared responses shows that the community influentials are knowledgeable about the food behavior and beliefs of the households in their communities. The extent of their knowledge varies with the country and the category of information sought. For example, in Peru the two groups' responses on food consumption patterns coincide, but the community influentials are not aware of the mother's practice of purging or foods given/avoided during illness.

In order to determine whether the community influential can be effective as the sole source of information, it is important to define the survey in terms of scope of work, available funding and time framework. Community influentials in all six countries can provide a reliable source for general information on food behavior. If more detailed information is required, the community influential could be effectively utilized in countries like Peru, Colombia, Tunisia and Jordan with little sacrifice in accuracy. However, in Guatemala and Bangladesh, because of some consistent differences between mothers and community influentials, perhaps due to the type of influential interviewed, i.e. formal leader in Bangladesh and difference in class within the community in Guatemala, the use of the community influential for eliciting detailed information may not be adequate.

V. REFERENCES

(1) Vemury, M. and Levine, H., Beliefs and Practices That Affect Food Habits - A Literature Review, CARE, New York, 1978.

(2) Vemury, M., Beliefs and Practices Affecting Food Habits in Rural Peru, CARE, New York, April, 1979.

(3) Vemury, M., Beliefs and Practices Affecting Food Habits in Rural Tunisia, CARE, New York, July, 1979.

(4) Vemury, M., Beliefs and Practices Affecting Food Habits in Rural Jordan, CARE, New York, February, 1980.

(5) Vemury, M., Beliefs and Practices Affecting Food Habits in Rural Guatemala, CARE, New York, March, 1980.

(6) Vemury, M., Beliefs and Practices Affecting Food Habits in Rural Bangladesh, CARE, New York, April, 1980.

(7) Vemury, M., Beliefs and Practices Affecting Food Habits in Rural Colombia, CARE, New York, June, 1980.

(8) Institute of Nutrition and Food Science, Nutrition Survey of Rural Bangladesh, Ed. Ahmad, K. U. Huda, and Nath, P. C., University of Dacca, Dacca, Bangladesh, December, 1977.

(9) Area Handbook for Colombia, U.S. Government Printing Office, Washington, D.C. 20402, 1977.

(10) INCAP and ICNND Nutritional Evaluation of the Population of Central America and Panama, Regional Summary 1965-67., U.S. Department of Health, Education and Welfare Publication No. (HSM) 72-8120, 1972.

(11) Syncrisis: The Dynamics of Health, XV: Tunisia Office of International Health, Division of Program Analysis, Washington D.C., 1975.

(12) Nutrition Survey of East Pakistan, March 1962 - January 1964, Public Health Service, U.S. Department of Health, Education and Welfare, May, 1966.

(13) May, J. M., M. L. McLellan, The Ecology of Malnutrition in Western South America (Peru), Vol. 14, Hafner Press, New York, 1975.

(14) World Tables, World Bank, John Hopkins University Press, Baltimore, Maryland, 1976.

(15) Rao, V. K. and C. Goplan, Nutrition and Family Size, Journal Nutr. Dietet., 6:258, 1969.

VI. APPENDICES

Appendix A. LOCATION OF SAMPLED SITES IN FOOD HABITS STUDY BY REGION AND BY DEPARTMENT OR GOVERNORATE OR THANA

COUNTRY	REGION	DEPARTMENT
PERU (Geographical and Agricultural Division)	Coastal	Ica Lambrayeque
	Highlands	Cuzco Huanuco Junin La Libertad Puno
	Lowlands	San Martin
COLOMBIA (Geographical/ Agricultural Division)	Atlantic Coast	Atlantico Sucre
	Pacific Coast	Choco Marino
	Coffee Zone	Antioquia
	Central Valley	Tolima
	Highlands	Boyaca Narino Santander
	Eastern Plains	Meta
GUATEMALA (Geographical/ Agricultural Division)[1]	Region I (Coffee)	Quezaltenango San Marcos
	Region II (Corn)	Alta Verapaz
	Region IV (Cotton)	San Marcos
	Region V (Sugar)	Guatemala El Progresso
	Region VI (Rice)	Jutiapa
	Region VII (Beans)	Chiquimula
TUNISIA (Geographical/ Agricultural Division	North	Bizerte Zaghouan
	Central	Kairouan Kef
	Sahel	Mahdia Sfax
	South	Gabes

[1]Region III (Peten) is omitted because of its very sparse population and inaccessibility

Appendix A, (Cont'd...)

COUNTRY	REGION	GOVERNORATE OR THANA
JORDAN (Geographical/ Agricultural Division)	Region I - Eastern Desert	Mafraq
	Region II - Northern Highlands	Amman Irbid Ajloun
	Region III - Jordan Rift Valley	Kerak Balqa
	Region IV - Southern Highlands	Tafila
	Region V - Southern Desert	Ma'an Aqaba
BANGLADESH[2] (Political Division)	Dacca	Basail Bazidpur Phulbaria Dhamrai Goalandoghat Janjira Phulpur Purbadala Raipur Sreenagar
	Chittagong	Balaganj Begumganj Biani Bazar Brahmmanbaria Chagalnaija Cox's Bazar Debidawar Hathazari Homna Khagrachari
	Khulna	Gournadi Hizla Kotwali Kumarkhali Mohespur Patuakhali Shyamnagar
	Rajshahi	Boda Gabtali Godagari Jaldhaka Patgram Sadullapur Singra Ullahpara

[2]Because of the relative uniformity of Bangladesh (except for Chittagong Hill Tract and Syhhet District) the Political Division is used as the framework for sample selection.

Appendix B

1

CARE PROJECT: BELIEFS AND PRACTICES AFFECTING FOOD HABITS IN DEVELOPING COUNTRIES

MOTHER'S QUESTIONNAIRE

COUNTRY: _____ [1 2] Country

SITE NAME: _____ [3 4] Site

TYPE OF LOCATION: 1. Rural ( ) 2. Rural ( ) [5] Location

DATE OF INTERVIEW: _____ DAY MONTH YEAR

NAME OF INTERVIEWER: _____

CHECKED BY: _____

FAMILY NUMBER: Assign after the day's interviews are completed. [6 7] Family No.

RECORD TYPE OF RESPONDENT: Code from question No. 5 [8] Type of Respondent

IDENTIFY THE CORRECT RESPONDENT. EXPLAIN PURPOSE OF PROJECT. THEN SAY: " I AM GOING TO ASK A FEW QUESTIONS ABOUT THE PEOPLE WHO LIVE IN YOUR HOUSE AND ABOUT THE FOODS YOU EAT". START ASKING QUESTIONS. FILL IN OR CIRCLE APPROPRIATE ANSWERS.

RESPONDENT BACKGROUND INFORMATION

1. WHAT IS YOUR NAME: _____

2. WHAT IS YOUR AGE: _____ Age in Years [9 10] Age (years)

2

3. WHAT IS YOUR RELIGION?

1. Christian
2. Muslim
3. Buddhism
4. Jainism
5. Judaism
6. Hinduism
7. Indigenous (specify) _____
8. No Religion

[11] Religion

4. WHAT ETHNIC GROUP/TRIBE/CASTE DO YOU BELONG TO?

1. 2. 3. 4. 5. 6. 7.

[12 13] Ethnic Group

5. DO YOU HAVE A CHILD UNDER 6 YEARS AND DID YOU PARTICIPATE IN ANY PROGRAM WHICH GIVES NUTRITION/HEALTH INFORMATION? _____

1. Mother with child under 6years and current participant in nutrition/health education.
2. Mother with child under 6years and past participant in nutrition/health education.
3. Mother with child under 6years and did not participate in nutrition/health education.
4. Mother with no child under 6years and current participant in nutrition/health education.
5. Mother with no child under 6years and past participant in nutrition/health education.
6. Mother with no child under 6years and did not participate in nutrition/health education.

NOTE: Code the above as Type of Respondent in page 1, column 8.

BEST AVAILABLE DOCUMENT

Appendix B (Cont'd.)

3

6. HOW MANY PEOPLE NORMALLY LIVE WITH YOU IN YOUR HOUSE?

No. of Adults 14yrs. or above _____ No. of Children 6-13 Years _____ No. of Children Under 6years _____

Total (include Respondent) _____

7. AT WHAT AGE DID YOU FIRST BECOME PREGNANT?

Age _____ years.

HOW MANY TIMES HAVE YOU BEEN PREGNANT? _____

HOW MANY OF THESE WERE: 1. Live Births _____

2. Miscarriages/ Abortions _____

3. Still Births _____

HAVE ANY OF YOUR CHILDREN DIED WHEN THEY WERE STILL UNDER 6 YEARS?

1. Yes _____ 2. No _____

IF YES, HOW MANY? _____

8. CAN YOU READ THIS? (Show sample of local writing)

1. Yes _____ 2. No _____

IF YES, NUMBER OF YEARS OF SCHOOLING _____.

9. HOW MANY YEARS DID YOUR HUSBAND GO TO SCHOOL?

No. of Years of Schooling _____ None _____

No. of Adults 14 15

No. Children 6-13 years 16 17

No. Children Under 6 years 18 19

Total Number 20 21

1st Pregnancy 22 23

Number of Pregnancies 24 25

Live Births 26 27

Miscarriages/ Abortions 28 29

Still Births 30

Children died under 6 years 31

No. died 32

Mother's Literacy 33

Mother's No. School years 34 35

Husband's No. School years 36 37

4

10. WHAT OTHER WORK DO YOU DO BESIDES HOUSEWORK? (Specify)

Other Work _____

None _____

Note: To code work, see code instructions.

11. (IF APPLICABLE) WHAT IS YOUR HUSBAND'S OCCUPATION?

OCCUPATION _____

Note: To code husband's work, see code instructions.

12. WHAT IS THE AVERAGE INCOME FOR YOUR FAMILY FROM ALL SOURCES PER MONTH? (Include husband and wife income and other cash or kind income).

Local Currency _____

DERIVE LATER FROM CODE INSTRUCTIONS U.S. $ EQUIVALENT _____

Note: If income is not known, derive approximate income from occupation given in code instructions.

13. DO YOU HAVE ACCESS TO A LATRINE? 1. Yes ___ 2. No ___

IF YES, DO YOU USE IT? 1. Yes ___ 2. No ___

Note: A latrine is considered an area with a hole or trench in the ground to use for excretion.

14. FROM WHERE DO YOU GET WATER FOR DAILY USE?

1. Household Tap
2. Community Tap/Pump
3. Tank/Well (covered)
4. Tank/Well (uncovered)
5. Stream (protected by a Dam, water comes from a pipe)
6. Open Stream
7. Delivered by Truck
8. Other (specify) _____

Mother's Work 38 39

Husband's Work 40 41

Income 42 - - - - 47

U.S. $ 48 - - 51

Latrine 52

Water 53

Serial Card No. 0 1 79 80

BEST AVAILABLE DOCUMENT

GENERAL FOODWAYS INFORMATION

15. I WOULD LIKE TO KNOW WHAT FOOD YOU MOST COMMONLY EAT DURING THE YEAR. (Rank foods by order of what is eaten most often. If food is mentioned in the prepared form, ask what it is made from and check the appropriate food of origin. Then ask: WHEN IT IS EATEN AND WHY? HOW OFTEN IS IT EATEN AND WHY? WHO EATS IT AND WHY? Check all columns as appropriate except the Why sections, which have to be written in.)

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any Time	Why	Daily	Times/ Week	Times/ Month	Why	Every-one	Adults Only	Under 13 Yrs.	Men Only	Women Only	Why
STAPLES													
Rice													
Corn													
Wheat													
Millet													
Sorghum													
Other													
STARCHY ROOTS AND VEGETABLES													
Potato													
Cassava													
Yucca													
Green Plantain													
Squash													
Yam													
Other													

STAPLES 5

9	16	23	30	37	Food
10	17	24	31	38	When Eaten
11	18	25	32	39	Why
12	19	26	33	40	How Often
13	20	27	34	41	Why
14	21	28	35	42	Who Eats
15	22	29	36	43	Why

STARCHY ROOTS AND VEGETABLES

44	51	58	65	72	Food
45	52	59	66	73	When Eaten
46	53	60	67	74	Why
47	54	61	68	75	How Often
48	55	62	69	76	Why
49	56	63	70	77	Who Eats
50	57	64	71	78	Why

Serial No. 1 2 3 4 5 Card 79 80

Appendix B (Cont'd.)

15. cont...

GENERAL FOODWAYS INFORMATION

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any time	Why	Daily	Times/Week	Times/Month	Why	Every-one	Adults only	Under 13 Yrs.	Men Only	Women Only	Why
ANIMAL PROTEIN Meat:													
Fish:													
Poultry:													
Eggs:													
Cheese:													
FATS AND OIL Corn													
Peanut													
Lard													
Butter													
Other													

FATS AND OIL

Food	44	51	58	65	72
When Eaten	45	52	59	66	73
Why	46	53	60	67	74
How Often	47	54	61	68	75
Why	48	55	62	69	76
Who Eats	49	56	63	70	77
Why	50	57	64	71	78

ANIMAL PROTEIN

Food	9	16	23	30	37
When Eaten	10	17	24	31	38
Why	11	18	25	32	39
How Often	12	19	26	33	40
Why	13	20	27	34	41
Who Eats	14	21	28	35	42
Why	15	22	29	36	43

6

Appendix B (Cont'd.)

15. cont...

GENERAL FOODWAYS INFORMATION

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any Time	Why	Daily	Times/ Week	Times/ Month	Why	Every-one	Adults Only	Under 13 Yrs.	Men Only	Women Only	Why
VEGETABLE PROTEINS													
Dry Beans:													
Dry Peas:													
Legumes:													
Peanuts													
FRUITS													
Bananas													
Grapes													
Oranges													
Papaya													
Mango													

VEGETABLE PROTEINS

9	16	23	30	37
10	17	24	31	38
11	18	25	32	39
12	19	26	33	40
13	20	27	34	41
14	21	28	35	42
15	22	29	36	43

Food
When Eaten
Why
How Often
Why
Who Eats
Why

FRUITS

44	51	58	65	72
45	52	59	66	73
46	53	60	67	74
47	54	61	68	75
48	55	62	69	76
49	56	63	70	77
50	57	64	71	78

Food
When Eaten
Why
How Often
Why
Who Eats
Why

79 80 0 13 Serial Card No. 7

79 80 0 4 Serial Card No.

Appendix B (Cont'd.)

15. cont...

GENERAL FOODWAYS INFORMATION

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any Time	Why	Daily	Times/ Week	Times/ Month	Why	Every-one	Adults Only	Under 13 Yrs.	Men Only	Women Only	Why
OTHER VEGETABLES													
Brinjal													
Carrots													
Lady's Fingers													
Green Leafy Vegetables													
Cabbage													
Gourds													
BEVERAGES													
Coffee													
Tea													
Cocoa													
Milk													

OTHER VEGETABLES

Food	9	16	23	30	37
When Eaten	10	17	23	31	38
Why	11	18	23	32	39
How Often	12	19	26	33	40
Why	13	20	27	34	41
Who Eats	14	21	28	35	42
Why	15	22	29	36	43

BEVERAGES

Food	44	51	58	65	72
When Drunk	45	52	59	66	73
Why	46	53	60	67	74
How Often	47	54	61	68	75
Why	48	55	62	69	76
Who Drinks	49	56	63	70	77
Why	50	57	64	71	78

8

Serial Card No. 0 5 79 80

9

16. I WOULD LIKE TO KNOW SOME DETAILS ABOUT YOUR COOKING PRACTICES.

A. WHAT FUEL DO YOU USE FOR COOKING? (Circle or write in appropriate answers)

1. Wood
2. Charcoal
3. Kerosene
4. Gas
5. Wood and Charcoal
6. Wood and Kerosene
7. Wood and Gas
8. Charcoal and Kerosene
9. Charcoal and Gas
10. Kerosene and Gas
11. Other (specify combination) _____

9 10 Fuel Used

B. HOW OFTEN DO YOU COOK FOOD IN A DAY?

Once

Two times

Three times

Four times

11 Times Cooked

C. DOES NUMBER OF TIMES FOOD COOKED PER DAY VARY BY SEASON?

1. Yes _____ 2. No _____

12 Cooking Varie

IF YES, SPECIFY

Seasons	No. of Times Cooked	Why
_____	_____	_____
_____	_____	_____
_____	_____	_____

Seasons No. of Times Cooked Why

13 14 15

16 17 18

19 20 21

Note: To code seasons and why food is cooked number of times mentioned, see code instructions

10

17. A. DO YOU GROW OR RAISE ANY FOOD FOR YOUR HOUSE?

1. Yes _____ 2. No _____

IF YES, SPECIFY FOODS _____

22 Grow Food

B. HOW MUCH OF THE FOOD EATEN IS GROWN/RAISED AT HOME?

1. Almost all (75%-100%)
2. More than half (50%-75%)
3. Less than half (25%-50%)
4. Less than a fourth (0-25%)

23 Source Animal

24 Source Vegetable

25 % Food Grown

18. A. WHO ORDINARILY PREPARES THE FOOD IN YOUR HOME?

1. Herself (i.e. Respondent)
2. Mother's mother
3. Mother-in-law
4. Older child
5. Other women in house
6. Father
7. Other (specify) _____

26 Food Preparation

B. DO WOMEN PREPARE FOOD FOR THE FAMILY WHEN THEY ARE MENSTRUATING?

1. Yes _____ 2. No _____

IF NO, WHY? _____

27 Food Preparation at Menstruation

28 Why

IF MOTHER GENERALLY PREPARES FOOD, ASK: DO YOU PREPARE FOOD WHEN MENSTRUATING?

1. Yes _____. 2. No _____.

29 Mother Prepares Food

IF NO, WHY NOT? _____

30 Why

11

19. DO YOU KEEP AT HOME THE FOLLOWING FOODS FOR LATER USE?

		IF YES, HOW?	Store	Now
a. Uncooked dry food (eg. staples)	1. Yes___ 2. No___		a 31	32
b. Uncooked perishables (eg. animal food, vegetables, fruit)	1. Yes___ 2. No___		b 33	34
c. Cooked food (eg. leftovers)	1. Yes___ 2. No___		c 35	36
d. Preserved food (e.g. dry or smoked fish)	1. Yes___ 2. No___		d 37	38

20. WHO USUALLY DECIDES WHAT FOODS TO BUY IN YOUR HOUSE?

1. Herself (ie. respondent)
2. Husband
3. Mother-in-law
4. Father-in-law
5. Other women in the house
6. Older child
7. Other (specify) _____

Decision Maker 39

21. DO YOU HAVE ANY OF THESE THINGS IN YOUR HOUSE?

a. Cooking vessels:
1. Metal
2. Clay
3. Both of the above
4. Other (specify) _____

Cooking Vessels 40

b. Radio
1. Yes
2. No

Radio 41

12

22. I WOULD LIKE TO KNOW WHAT MEALS YOU ATE YESTERDAY AND WHAT FOODS YOU ATE AND DRANK IN THESE MEALS? (List foods eaten for each meal in a row)

Adults and children above 6 years

MEAL NO.	FOODS
1.	
2.	
3.	
4.	

No. Meals per day-Adults children above 6 yrs 42

WHAT FOOD AND DRINK DID YOUR CHILDREN UNDER 6 YEARS EAT IN THEIR MEALS YESTERDAY?

Children 6 years and under

MEAL NO.	FOODS
1.	
2.	
3.	
4.	

No. Meals per day-children under 6 yrs. 43

23. DID YOU OR YOUR CHILDREN UNDER 6 YEARS EAT OR DRINK OTHER FOODS BETWEEN MEALS?

1. Yes_____ 2. No_____

Snacks 44

IF YES, WHAT WERE THEY? (List foods)

Adults & children above 6 years	Children 6 years and under

No. Snacks Adults 45

No. Snacks Children 46

24. a. IF YOU HAD A CHOICE, WHAT FOODS WOULD YOU PREFER TO EAT OR EAT MORE OF? (List 4 foods in order of preference; after each food, ask why?)

Foods	Why	Food	Why
1.		47	48
2.		49	50
3.		51	52
4.		53	54

b. IF YOU HAD A CHOICE, WHAT FOODS WOULD YOU EITHER NOT EAT OR EAT LESS OF? (List 4 foods in order of foods reduced or omitted most; after each food, ask why?)

Foods	Why	Foods not Eaten	Why
1.		55	56
2.		57	58
3.		59	60
4.		61	62

25. DOES EVERYONE IN YOUR HOUSE SIT DOWN TOGETHER TO EAT A MEAL?

1. Yes_____ 2. No_____ 3. Sometimes_____ [63] Eat Together

IF NO, OR SOMETIMES WHO EATS SEPARATELY?

	Why?	
1. Male adults alone; female adults and children.		[64] Eat Separately
2. Male adults and male children; female adults & female children		[65] Why
3. Male adults and children (male & female); female adults alone.		
4. Male adults and female adults; children alone.		
5. Male adults alone; female adults alone; children alone.		
6. Any other combination specify _____		

26. HOW DO YOU EAT FOOD IN YOUR HOUSE?

1. From common pot
2. In separate plates/bowls
3. Both of the above

[66] Food Eaten

27. WHO USUALLY GETS THE MOST VALUED PORTIONS OF FOOD IN YOUR HOUSE? (Husband, mother ie., respondent, older boys, older girls, children under 6 years, mother-in-law, father-in-law or any other person, specify). List in order of preference and why you allot food in this way.

	Why	Preference	Why
1.		67	68
2.		69	70
3.		71	72
4.		73	74

IF THERE IS A PREGNANT WOMAN IN THE HOUSE, WILL THIS ORDER OF PREFERENCE CHANGE?

1. Yes_____ 2. No_____

IF YES, HOW WILL SHE BE RANKED?

Rank_____ [75] Rank of Pregnant Woman

15

IF THERE IS A BREAST FEEDING WOMAN IN THE HOUSE, WILL THE ORDER OF PREFERENCE CHANGE?

1. Yes_____ 2. No_____

IF YES, HOW WILL SHE BE RANKED?

Rank _____

Rank of Breast feeding Woman [ ] 76

28. DO YOU BOIL YOUR WATER FOR DRINKING?

1. Yes____ 2. No____ 3. Sometimes_____

Boil water. [ ] 77

IF NO, OR SOMETIMES WHY?_____

Why [ ] 78

GENERAL FOOD HABITS AND BELIEFS

Serial Card No [0] [6] 79 80

29. WHAT ARE THE EVENTS WHEN ALL MEALS OR CERTAIN FOODS IN A MEAL IS RESTRICTED DURING THE YEAR? (List up to 5 events in order of importance). WHAT FOODS ARE RESTRICTED? (List up to 3 important foods per event). HOW OFTEN DOES THE EVENT OCCUR? HOW LONG DOES IT LAST AND WHO AVOIDS THE FOOD?

Event	All Meal or Food Items				Frequency			Duration Days	Who Avoids
	Meal	Food 1	Food 2	Food 3	Week	Month	Year		
1.									
2.									
3.									
4.									
5.									

Event	Food	Frequency	Duration	Who Avoids
[ ] 9	[ ] 10	[ ] 11	[ ] 12	[ ] 13
[ ] 14	[ ] 15	[ ] 16	[ ] 17	[ ] 18
[ ] 19	[ ] 20	[ ] 21	[ ] 22	[ ] 23
[ ] 24	[ ] 25	[ ] 26	[ ] 27	[ ] 28
[ ] 29	[ ] 30	[ ] 31	[ ] 32	[ ] 33

IS A PREGNANT WOMAN EXEMPT FROM THESE RESTRICTIONS?

1. Yes _____ 2. No _____

Pregnant Woman Exempt [ ] 34

IF YES, WHY?_____

Why [ ] 35

16

IS A BREASTFEEDING WOMAN EXEMPT FROM THESE RESTRICTIONS?

1. Yes _____ 2. No _____

Breastfeeding Woman Exempt [ ] 36

IF YES, WHY?_____

Why [ ] 37

ARE CHILDREN UNDER 13 YEARS EXEMPT FROM THESE RESTRICTIONS?

1. Yes _____ 2. No _____

Child Under 13 Years Exempt [ ] 38

IF YES, WHY?_____

Why [ ] 39

30. DO YOU AVOID ANY FOODS BECAUSE OF RELIGIOUS TEACHINGS?

1. Yes _____ 2. No _____

Religious Avoidance [ ] 40

IF YES, WHAT FOODS DO YOU AVOID AND WHY? (List up to 4 foods in order of importance)

Foods	Why	Food	Why
1.		[ ] 41	[ ] 42
2.		[ ] 43	[ ] 44
3.		[ ] 45	[ ] 46
4.		[ ] 47	[ ] 48

31. DO YOU AVOID ANY FOODS FOR OTHER REASONS? (ie.tribe, caste, ethnic group)

1. Yes _____ 2. No _____

Other Food Avoidance [ ] 49

IF YES, WHAT FOODS DO YOU AVOID AND WHY? (List up to 4 foods in order of importance)

Foods	Why	Food	Why
1.		[ ] 50	[ ] 51
2.		[ ] 52	[ ] 53
3.		[ ] 54	[ ] 55
4.		[ ] 56	[ ] 57

Appendix B (Cont'd.)

17

32. SOME PEOPLE FOLLOW BELIEFS CONCERNING HOT AND COLD FOODS.

A. DO YOU KNOW ABOUT THESE BELIEFS?

1. Yes _____ 2. No _____

Hot/Cold Beliefs [ ] 58

B. IF YES, DO YOU FOLLOW THEM IN PREPARING AND EATING FOOD? (For each category of people, check one of the 3 responses)

	All of the time	When Sick Only	Never	When
For Yourself	_____	_____	_____	[ ] 59
For your Children 0-6 years	_____	_____	_____	[ ] 60
For all the Family	_____	_____	_____	[ ] 61

C. HOW DO YOU DECIDE (define) WHAT FOODS ARE HOT AND WHAT FOODS ARE COLD? GIVE 3 EXAMPLES OF EACH CATEGORY.

		Examples of Food	Hot Food Definition	Example
Hot Food Definition	_____	_____	[ ] 62	[ ][ ] 63 64
	_____	_____		[ ][ ] 65 66
	_____	_____		[ ][ ] 67 68

			Cold Food Definition	Example
Cold Food Definition	_____	_____	[ ] 69	[ ][ ] 70 71
	_____	_____		[ ][ ] 72 73
	_____	_____		[ ][ ] 74 75

[0][7] 79 80 Serial Card No.

BEST AVAILABLE DOCUMENT

33. a. I WOULD LIKE TO KNOW ABOUT OTHER FOODS EATEN OR DRUNK BY YOUR FAMILY. (First rank up to 5 foods in order of avoidance in each category of people, then go back to each food and get information on why it is bad, when it is avoided, did the mother avoid the food and if not avoided why? Check columns when appropriate or write in response).

ARE THERE ANY FOODS ESPECIALLY BAD FOR:	WHY IS IT BAD?			WHEN AVOIDED?				DID YOU AVOID IT?		IF NOT AVOIDED WHY?
	Hot	Cold	Other	All Times	Sickness	Season	Other	Yes	No	
EVERYONE 1.Yes 2.No If yes, list foods										
1.										
2.										
3.										
4.										
5.										
YOUNG GIRLS BEFORE MENSTRUATION 1.Yes 2.No If yes, list foods				Above 6 yrs.	Early Puberty	Other	Other			
1.										
2.										
3.										
4.										
5.										
FIRST MENSTRUATION 1.Yes 2.No If yes, list foods				During Period	All the Time	Other	Other			
1.										
2.										
3.										
4.										
5.										

EVERYONE 18
9 10 11 12 13 14
15 16 17 18 19 20
21 22 23 24 25 26
27 28 29 30 31 32
33 34 35 36 37 38

YOUNG GIRLS
39 40 41 42 43 44
45 46 47 48 49 50
51 52 53 54 55 56
57 58 59 60 61 62

FIRST MENSTRUATION
63 64 65 66 67 68
9 10 11 12 13 14
15 16 17 18 19 20
21 22 23 24 25 26
27 28 29 30 31 32
33 34 35 36 37 38

BEST AVAILABLE DOCUMENT

Appendix B (Cont'd.)

33.a. cont...

ARE THERE ANY FOODS ESPECIALLY BAD FOR:	WHY IS IT BAD?			WHEN AVOIDED?				DID YOU AVOID IT?		IF NOT AVOIDED WHY?
	Hot	Cold	Other	During Period	All the Time	Other	Other	Yes	No	
LATER MENSTRUATION 1.Yes 2.No If yes, list foods										
1.										
2.										
3.										
4.										
5.										
PREGNANCY 1.Yes 2.No If yes, list foods				Entire Pregnancy	Upto 3rd month	Upto 6th month	6th -9th month			
1.										
2.										
3.										
4.										
5.										
AFTER DELIVERY 1.Yes 2.No If yes, list foods				0-3 Days	0-7 Days	0-15 Days	Other			
1.										
2.										
3.										
4.										
5.										

Card No. 1 0 (79 80)
Serial No.

BEST AVAILABLE DOCUMENT

Appendix B (Cont'd.)

33. a. cont...

ARE THERE ANY FOODS ESPECIALLY BAD FOR:	WHY IS IT BAD?			WHEN AVOIDED?				DID YOU AVOID IT?		IF NOT AVOIDED WHY?
	Hot	Cold	Other	Entire Breast feeding	1-2 week	1st month	Other	Yes	No	
DURING BREASTFEEDING 1.Yes 2.No If yes, list foods										
1.										
2.										
3.										
4.										
5.										
CHILDREN 0-2 Yrs. 1 Yes 2.No If yes, list foods				All Times	Sickness	Season	Other			
1.										
2.										
3.										
4.										
5.										
CHILDREN 2-6 Yrs. 1.Yes 2.No If yes, list foods				All Times	Sickness	Season	Other			
1.										
2.										
3.										
4.										
5.										

Appendix B (Cont'd.)

33. D. NOW, I WOULD LIKE TO KNOW ABOUT THE FOODS WHICH YOU THINK ARE ESPECIALLY GOOD FOR PEOPLE TO EAT. (First rank up to 5 foods in order of importance in each category of people, then go back to each food and get information on why it is good, when is it good, did you eat this food and if not, why? Check columns when appropriate or write in response).

ARE THERE ANY FOODS ESPECIALLY GOOD FOR:	WHY ARE THEY GOOD? Hot	Cold	Other	WHEN ARE THEY GOOD? All Times	Sickness	Season	Other	DID YOU EAT THIS FOOD? Yes	No	IF NOT EATEN, WHY?
EVERYONE 1.Yes 2.No If yes, list foods										
1.										
2.										
3.										
4.										
5.										
YOUNG GIRLS BEFORE MENSTRUATION 1.Yes 2.No If yes, list foods				Above 6 yrs.	Early Puberty	Other	Other			
1.										
2.										
3.										
4.										
5.										
FIRST MENSTRUATION 1.Yes 2.No If yes, list foods				During Period	All the time	Other	Other			
1.										
2.										
3.										
4.										
5.										

79 [1] [3] 80 Serial Card No.

63 64 65 66 67 68 | 57 58 59 60 61 62 | 51 52 53 54 55 56 | 45 46 47 48 49 50 | 39 40 41 42 43 44 | INTERVIEW 21

33 34 35 36 37 38 FIRST MENSTRUATION | 27 28 29 30 31 32 | 21 22 23 24 25 26 | 15 16 17 18 19 20 | 9 10 11 12 13 14 | YOUNG GIRLS 79 [1] [2] 80

53 54 55 56 57 58 | 47 48 49 50 | 41 42 43 44

Appendix B (Cont'd.)

33. F. cont...

ARE THERE ANY FOODS ESPECIALLY GOOD FOR:	WHY ARE THEY GOOD? Hot	Cold	Other	WHEN ARE THEY GOOD? During Period	All the Time	Other	Other	DID YOU EAT THIS FOOD? Yes	No	IF NOT EATEN, WHY?
LATER MENSTRUATION 1.Yes 2.No If yes, list foods										
1.										
2.										
3.										
4.										
5.										
PREGNANCY 1.Yes 2.No If yes, list foods				Entire Pregnancy	Upto 3rd month	Upto 6th month	6th-9th month			
1.										
2.										
3.										
4.										
5.										
AFTER DELIVERY 1.Yes 2.No If yes, list foods				0-3 Days	0-7 Days	0-15 Days	Other			
1.										
2.										
3.										
4.										
5.										

LATER MENSTRUATION 22: 9-10, 11, 12, 13, 14; 15-16, 17, 18, 19, 20; 21-22, 23, 24, 25, 26; 27-28, 29, 30, 31, 32

PREGNANCY: 33-34, 35, 36, 37, 38; 39-40, 41, 42, 43, 44; 45-46, 47, 48, 49, 50; 51-52, 53, 54, 55, 56; 57-58, 59, 60, 61, 62

AFTER DELIVERY: 63-64, 65, 66, 67, 68; 79-80 [1][4]

9-10, 11, 12, 13, 14; 15-16, 17, 18, 19, 20; 21-22, 23, 24, 25, 26; 27-28, 29, 30, 31, 32; 33-34, 35, 36, 37, 38

Appendix B (Cont'd.)

33. b. cont...

ARE THERE ANY FOODS ESPECIALLY GOOD FOR:	WHY ARE THEY GOOD? Hot	Cold	Other	WHEN ARE THEY GOOD? Entire Breast-feeding	1-2 weeks	1st month	Other	DID YOU EAT THIS FOOD? Yes	No	IF NOT EATEN, WHY?
DURING BREASTFEEDING 1.Yes 2.No If yes, list foods										
1.										
2.										
3.										
4.										
5.										
CHILDREN 0-2 Yrs. 1. Yes 2.No If yes, list foods				All Times	Sick-ness	Sea-son	Other			
1.										
2.										
3.										
4.										
5.										
CHILDREN 2-6 Yrs. 1.Yes 2.No If yes, list foods				All Times	Sick-ness	Sea-son	Other			
1.										
2.										
3.										
4.										
5.										

79 80 Card No. 1 16 Serial

23 FOOD PREFERENCES

9 10 | 11 12 | 13 14 | 15 16 | 17 18 | 19 20 | 21 22 | 23 24 | 25 26 | 27 28 | 29 30 | 31 32 | 33 34 | 35 36 | 37 38 | 39 40 | 41 42 | 43 44 | 45 46 | 47 48 | 49 50 | 51 52 | 53 54 | 55 56 | 57 58 | 59 60 | 61 62 | 63 64 | 65 66 | 67 68

CHILDREN 0-2 YRS. CHILDREN 2-6 YRS.

24

SPECIAL DIETARY PRACTICES AND BELIEFS FOLLOWED AT PREGNANCY AND AFTER THE BABY IS BORN

I WOULD NOW LIKE TO KNOW ABOUT FOODS A WOMAN EATS WHEN SHE IS PREGNANT.

34. WHEN A WOMAN IS PREGNANT, HOW MUCH SHOULD SHE GENERALLY EAT AND DRINK?

	Why	Observed	
1. Normal Amounts			
2. Less than Normal			
3. More than Normal			

IF LESS OR MORE THAN NORMAL ASK WHY?

Then ask: DID YOU FOLLOW THE PRACTICE WHEN YOU WERE PREGNANT? (Fill in column Observed 1. Yes 2. No)

35. IF A PREGNANT WOMAN IS NOT FEELING WELL (ie. has fever, colds, coughs, flu, etc.) HOW DOES SHE EAT? (Circle or write in appropriate answer and ask why?)

	Why	Observed	
1. Fast			
2. Eat Less			
3. Drink medicinal teas but try to eat normally			
4. Drink medicinal teas and eat less			
5. Try to eat normally			
6. Other (specify)			

WHEN YOU WERE SICK DURING THE PRESENT (LAST) PREGNANCY, DID YOU FOLLOW THIS PRACTICE? (Fill last column Observed 1. Yes 2. No 3. was not sick)

9	Quantity of food
10	Why
11	Observed
12	Food intake during sickness
13	Why
14	Observed

25

36. SHOULD A MOTHER BE GIVEN FOOD RIGHT AFTER HER BABY IS BORN?

1. Yes _____ 2. No _____

IF NO, ASK: FOR HOW LONG IS NO FOOD GIVEN? WHY?

For How Long?	Why	Observed

DID YOU FOLLOW THIS PRACTICE AFTER YOUR LAST CHILD WAS BORN? (Fill last column Observed 1. Yes 2. No)

37. WHO TAUGHT YOU WHAT TO EAT WHEN YOU WERE PREGNANT OR BREAST FEEDING YOUR CHILD?

1. Herself (ie. watched others)
2. Mother
3. Mother-in-law
4. Older women
5. Other mothers
6. Health worker
7. Local curer
8. Other (specify) _____

SPECIAL BELIEFS AND PRACTICES FOLLOWED DURING BREASTFEEDING

I WOULD NOW LIKE TO ASK WHAT WOMEN EAT WHEN THEY ARE BREASTFEEDING

38. ARE YOU BREASTFEEDING NOW?

1. Yes _____ 2. No _____

15	Food after delivery
16	Duration
17	Why
18	Observed
19	Source of advice
20	Present breastfeeding

Appendix B (Cont'd.)

26

39. WHEN A WOMAN IS BREASTFEEDING, HOW MUCH SHOULD SHE EAT OR DRINK?

	Why	Observed	
1. Normal Amounts			Quantity of food 21
2. Less than Normal			
3. More than Normal			

IF LESS THAN NORMAL ASK WHY? — Why 22

DID YOU FOLLOW THIS PRACTICE WHEN YOU WERE BREASTFEEDING? (Fill in last column Observed 1. Yes 2. No 3. Did not breast feed) — Observed 23

40. WHAT SHOULD A BREASTFEEDING MOTHER DO WHEN THE BABY IS SICK? (ie. when the baby has fever, loose stools, vomits or has some other illness)

	Observed	
1. Reduce your food intake so that you do not harm the infant.		Mother's food intake when baby is ill 24
2. Eat special foods or herbs so that these will pass through the milk to the infant. Specify foods and why it is good.		
3. Stop eating certain foods. Specify foods and why it is bad.		
4. Other (specify)		
5. Nothing		

DID YOU FOLLOW THIS PRACTICE WHEN YOUR BABY WAS SICK? (Fill in column Observed 1. Yes 2. No 3. Baby was not sick) — Observed 25

41. SHOULD A MOTHER BREAST FEED THE BABY WHEN SHE, ie. THE MOTHER IS SICK? (Circle appropriate response and ask why)

	Why	Observed	
1. No			Breastfeeding when Mother is ill. 26
2. Someone else breast feeds baby			
3. Yes-normal amount			Why 27
4. Yes-less than normal			

DID YOU FOLLOW THIS PRACTICE WHEN YOU WERE SICK? (Fill in column Observed 1. Yes 2. No 3. Mother was not sick) — Observed 28

27

42. SHOULD A MOTHER BREAST FEED THE BABY WHEN THE BABY IS SICK?

	Why	Observed	
1. No			Breastfeeding when baby is ill 29
2. Yes-normal amounts			Why 30
3. Yes-less than normal			

DID YOU FOLLOW THIS PRACTICE WHEN YOUR BABY WAS SICK? (Fill in column Observed 1. Yes 2. No 3. baby was not sick) — Observed 31

IF NO, WHAT WOULD/DID YOU FEED THE CHILD INSTEAD? — Food fed to child 32

42. HOW LONG SHOULD A MOTHER BREASTFEED A CHILD? — Length of breastfeeding, age in months 33 34

Event/Sign/Age in months	Observed	
		Observed 35

DID YOU BREASTFEED YOUR LAST CHILD UNTIL THIS AGE? (Fill in column Observed 1. Yes 2. No, If no, up to what age did you breastfeed?_____, 3. Did not breastfeed) — Upto age Breast-fed 36

43. HOW DID YOU STOP BREASTFEEDING YOUR CHILD? — Method of stopping breastfeeding 37

1. Introduce other foods gradually
2. Introduce other foods abruptly
3. Send the child away to live with relative/friend
4. Apply bitter or sour tasting substance on the breast
5. Resort to other punishable methods
6. Discourage by pushing away the child gently
7. Mother or child is sick
8. Other(specify)_____

44. A. WHAT IS THE REASON FOR STOPPING BREASTFEEDING A CHILD?

1. _____ 38 39 — Reason for stopping breastfeeding

2. _____ 40 41 — Reason for stopping breast-feeding

3. _____ 42 43 — Reason for stopping breast feeding

4. _____ 44 45 — Reason for stopping breas-feeding

5. _____

B. WHAT WAS THE MOST IMPORTANT REASON YOU STOPPED BREASTFEEDING YOUR CHILD? (Use code list from 44 A) 46 47 — Reason for stopping breast feeding

Reason _____ 48 49 — Reason for stopping breast feeding own child

SPECIAL BELIEFS AND PRACTICES FOLLOWED FOR INFANT FEEDING

I WOULD LIKE TO KNOW ABOUT HOW VERY YOUNG CHILDREN ARE FED UNTIL THEY ARE OLD ENOUGH TO EAT ADULT FOOD.

45. WHAT DO YOU FIRST GIVE A CHILD BY MOUTH RIGHT AFTER BIRTH? (List up to 3 important items)

Food	No. of hours after birth	Why		No. hrs.	Why
1. _____	_____	_____	50 51	52 53	54
2. _____	_____	_____	55 56	57 58	59
3. _____	_____	_____	60 61	62 63	64

46. DID YOU GIVE THE BREAST TO THE BABY AS SOON AS IT WAS BORN?

1. Yes_____ 2. No_____ — 65 — Breastfeed immediately

IF YES OR NO ASK WHY _____ — 66 — Why

IF NO, WHEN DID YOU FIRST PUT THE CHILD TO BREAST?

After_____ hours — 67 68 — Breastfeed after No. of hrs.

47. DO YOU FEED YOUR CHILD WITH A BOTTLE?

1. Yes_____ 2. No_____

IF YES, AT WHAT AGE? (Age in months)_____ Why_____ — 69 70 — Age in months of bottlefeeding

WHAT FOODS DO YOU FEED THROUGH THE BOTTLE? (List) _____ — 71 — Why

IF MILK IS MENTIONED, IS THIS: 1. Evaporated, dry, condensed 2. Fresh milk — 72 — Type of milk

Appendix B (Cont'd.)

30

48. IF A MOTHER HAS NO MILK, OR DOES NOT WANT TO BREASTFEED, HOW SHOULD SHE FEED THE INFANT? — Observed — 73 — Substitute for Mother's milk

1. Wet Nurse
2. Bottle feed
3. Other(specify)

DID YOU FOLLOW THIS PRACTICE?(Fill in column Observed 1. Yes 2. No 3. Not applicable) — 74 — Observed

49. WHEN SHOULD A MOTHER START INTRODUCING FOODS OTHER THAN BREAST MILK TO A CHILD? (Write in answer and ask why) — 75 76 — Age(Months) Introduce solid

Event/Sign/ Age (months)	Why	Observed	
			77 — Why

DID YOU FOLLOW THIS PRACTICE FOR YOUR CHILD IN THE PAST?(Fill in column Observed 1. Yes 2. No, If no, at what age did you start solids? — 78 — Age of starting solids 79 80 — Serial Card No.

50. WHAT ARE THE FIRST FOODS OTHER THAN BREASTMILK FED TO THE CHILD ?(List 5 important foods, ask for each food) HOW ARE THEY PREPARED? AT WHAT AGE ARE THEY GIVEN AND WHY ARE THESE PARTICULAR FOODS GIVEN?

Food	Preparation (special for infant)	Age (months) Introduced	Why are these foods given?	Observed	Food	Preparation	Age(months)	Why	Observed
1.					9	10	11 12	13	14
2.					15	16	17 18	19	20
3.					21	22	23 24	25	26
4.					27	28	29 30	31	32
5.					33	34	35 36	37	38

ASK: DID YOU GIVE THESE FOODS TO YOUR CHILD? (For each food listed, fill in column Observed 1. Yes 2. No- if No, why?)

31

51. AT WHAT AGE CAN A CHILD EAT ADULT FOOD WITHOUT ANY SPECIAL PREPARATION? — 39 40 — Age (months) adult food

Event/Sign/Age(months)	Why	
		41 — Why

WHEN DID YOUR CHILD START EATING ADULT FOOD? WHY DID YOU GIVE ADULT FOOD AT THIS TIME? — 42 43 — Age (months) own child eats adult food

Event/Sign/Age (months)	Why	
		44 — Why

52. WHO GENERALLY FEEDS THE CHILD WHEN THE CHILD IS NO LONGER BREASTFED? WHY? — 45 — Feeds child

1. Mother
2. Grandmother
3. Older child
4. Other women in house
5. Father
6. Other(specify)

46 — Why

53. FROM WHOM DID YOU LEARN HOW TO FEED YOUR CHILD? — 47 48 — Source of advice

1. No one
2. Mother's Mother
3. Mother-in-law
4. Health Worker (Doctor, Nurse, Midwife)
5. Local curer
6. Older women
7. Other Mothers
8. Seeing other women
9. Husband
10. Father of respondent
11. Other (specify)

Appendix B (Cont'd.)

32

54. DO YOU CLEAN CHILDREN'S BOWELS?

1. Yes_____ 2. No_____ Clean Bowels 49

IF YES, WHEN DO YOU DO THIS AND WHY?

WHEN_____ When 50 51

WHY_____ Why 52 53

55. I AM GOING TO NAME A FEW ILLNESSES. PLEASE TELL ME IF ANY FOOD IS GIVEN OR NOT GIVEN TO YOUR CHILD AND WHO TOLD YOU ABOUT THESE FOODS.

Illness	Food Given	Why	Food Avoided	Why	Source of Advice
Diarrhea, vomiting					
Fever					
Colds, Sore Throats					
Worms					

Food Given 9 10 | Why 11 | Food Avoided 12 13 | Why 14 | Source of Advice 15

16 17 | 18 | 19 20 | 21 | 22

23 24 | 25 | 26 27 | 28 | 29

30 31 | 32 | 33 34 | 35 | 36

1 8 Serial Card No.
79 80

Appendix C

1

CARE PROJECT: BELIEFS AND PRACTICES AFFECTING FOOD HABITS IN DEVELOPING COUNTRIES

COMMUNITY RESPONDENTS QUESTIONNAIRE

COUNTRY: _____ [ ][ ] Country (1 2)

SITE NAME: _____ [ ][ ] Site (3 4)

TYPE OF LOCATION: 1. Rural ( ) [ ] Location (5)

2. Rural ( )

DATE OF INTERVIEW: _____
Day Month Year

NAME OF INTERVIEWER: _____

CHECKED BY: _____

Note: All respondents chosen must be residing in the community with the exception of the Nutrition/Health professional at the planning level. [ ] Community Respondent Number (6)

TYPE OF RESPONDENT: 1. Informal community leader(ie. older woman) [ ][ ] Type of Respondent (7 8)
2. Teacher
3. Midwife
4. Health para professional
5. Local curer
6. Other (specify) _____
7. Feeding center administrator
8. Nutrition professional at planning level
9. Health professional at planning level

RESPONDENT BACKGROUND INFORMATION

1. WHAT IS YOUR NAME: _____

2. WHAT IS YOUR AGE: _____
Age in Years [ ][ ] Age (years) (9 10)

3. RECORD SEX OF RESPONDENT: [ ] Sex (11)

1. Male 2. Female

2

4. HOW MANY YEARS OF FORMAL SCHOOLING DID YOU HAVE?

None _____

Years of schooling _____ [ ][ ] Years of Schooling (12 13)

5. HOW LONG HAVE YOU LIVED IN THIS COMMUNITY?

Years _____ [ ][ ] Years in Community (14 15)

GENERAL FOODWAYS INFORMATION

6. I WOULD LIKE TO KNOW WHAT FOODS ARE COMMONLY EATEN IN THIS COMMUNITY DURING THE YEAR. (Rank foods by order of what is eaten most often. If food is mentioned in the prepared form, ask what it is made from and check the appropriate food of origin. Then ask: WHEN IT IS EATEN AND WHY? HOW OFTEN IS IT EATEN AND WHY? WHO EATS IT AND WHY? Check all columns as appropriate except the why sections, which have to be written in).

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Seasonal	At any time	Why	Daily	Times/week	Times/month	Why	Everyone	Adults only	Under 13 yrs.	Men only	Women only	Why
STAPLES													
Rice													
Corn													
Wheat													
Millet													
Sorghum													
Other													
STARCHY ROOTS AND VEGETABLES													
Potato													
~~Casava~~ Cassava													
~~Yuca~~ Yucca													
Green Plantain													
Squash													
Yam													
Other													

STARCHY ROOTS AND VEGETABLES

Foods	9	16	23	30	37
When Eaten	10	17	24	31	38
Why	11	18	25	32	39
How Often	12	19	26	33	40
Why	13	20	27	34	41
Who Eats	14	21	28	35	42
Why	15	22	29	36	43

STAPLES

Foods	16	23	30	37	44
When Eaten	17	24	31	38	45
Why	18	25	32	39	46
How Often	19	26	33	40	47
Why	20	27	34	41	48
Who Eats	21	28	35	42	49
Why	2	[illegible]	[illegible]	[illegible]	5

Appendix C (Cont'd.)

cont...

GENERAL FOODWAYS INFORMATION

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any time	Why	Daily	Times/Week	Times/Month	Why	Every-one	Adults only	Under 13 Yrs.	Men Only	Women Only	Why
ANIMAL PROTEIN													
Meat:													
Fish:													
Poultry:													
Eggs:													
Cheese:													
FATS AND OIL													
Corn													
Peanut													
Lard													
Butter													
Other													

FATS AND OIL

8	16	24	32	37	Food
9	17	25	33	38	When Eaten
10	18	26	34	39	Why
11	19	27	35	40	How Often
12	20	28	36	41	Why
13	21	29	37	42	Who Eats
14	22	30	38	43	Why
15	23	31	39		

ANIMAL PROTEIN

44	51	58	65	72	Food
45	52	59	66	73	When Eaten
46	53	60	67	74	Why
47	54	61	68	75	How Often
48	55	62	69	76	Why
49	56	63	70	77	Who Eats
50	57	64	71	78	Why

cont...

GENERAL FOODWAYS INFORMATION

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any Time	Why	Daily	Times/ Week	Times/ Month	Why	Every-one	Adults Only	Under 13 Yrs.	Men Only	Women Only	Why
VEGETABLE PROTEINS													
Dry Beans:													
Dry Peas:													
Legumes:													
Peanuts													
FRUITS													
Bananas													
Grapes													
Oranges													
Papaya													
Mango													

FRUITS

☐	Food	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
☐	When Eaten																																			
☐	Why																																			
☐	How Often																																			
☐	Why																																			
☐	Who Eats																																			
☐	Why																																			

VEGETABLE PROTEINS

☐	Food	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
☐	When Eaten																																			
☐	Why																																			
☐	How Often																																			
☐	Why																																			
☐	Who Eats																																			
☐	Why																																			

5

Appendix C (Cont'd.)

cont...

GENERAL FOODWAYS INFORMATION

FOOD	WHEN EATEN			HOW OFTEN EATEN				WHO EATS THEM					
	Sea-sonal	At any Time	Why	Daily	Times/ Week	Times/ Month	Why	Every-one	Adults Only	Under 13 Yrs.	Men Only	Women Only	Why
OTHER VEGETABLES													
Brinjal													
Carrots													
Lady's Fingers													
Green Leafy Vegetables													
Cabbage													
Gourds													
BEVERAGES													
Coffee													
Tea													
Cocoa													
Milk													

BEVERAGES

Food	1	2	3	4	5
When Drunk	6	7	8	9	10
Why	11	12	13	14	15
How Often	16	17	18	19	20
Why	21	22	23	24	25
Who Drinks	26	27	28	29	30
Why	31	32	33	34	35

OTHER VEGETABLES

Food	36	37	38	39	40
When Eaten	41	42	43	44	45
Why	46	47	48	49	50
How Often	51	52	53	54	55
Why	56	57	58	59	60
Who Eats	61	62	63	64	65
Why	66	67	68	69	70

I WOULD LIKE TO KNOW SOME COOKING PRACTICES IN THIS COMMUNITY.

7. A. WHAT FUEL IS USED FOR COOKING?
(Circle fuel used most often)

1. Wood
2. Charcoal
3. Kerosene
4. Gas
5. Wood and Charcoal
6. Wood and Kerosene
7. Wood and Gas
8. Charcoal and Kerosene
9. Charcoal and Gas
10. Kerosene and Gas
11. Other (Specify combination)

[ ][ ] Fuel Used 44 45

B. HOW OFTEN IS FOOD COOKED PER DAY?

Once
Two times
Three times
Four times

[ ] Times Cooked 46

C. DOES NUMBER OF TIMES FOOD COOKED PER DAY IN THIS COMMUNITY VARY BY SEASON?

1. Yes_____ 2. No _____

[ ] Cooking Varies 47

IF YES, SPECIFY

Seasons	No. of Times cooked	Why	Seasons	No. Times Cooked	Why
			[ ] 48	[ ] 49	[ ] 50
			[ ] 51	[ ] 52	[ ] 53
			[ ] 54	[ ] 55	[ ] 56

8. DO PEOPLE IN THIS COMMUNITY GROW OR RAISE ANY FOOD FOR THEIR HOUSE?

1. Yes_____ 2. No_____ 3. Some Yes, Some No_____

[ ] Grow Food 57

IF YES, SPECIFY FOOD_____

IF YES OR SOME YES, HOW MUCH OF THE FOOD EATEN IS GROWN/RAISED AT HOME?

1. Almost all (75% - 100%)
2. More than half (50% - 75%)
3. Less than half (25% - 50%)
4. Less than a fourth (0 - 25%)

[ ] Source Animal 58

[ ] Source Vegetable 59

[ ] % Food Grown 60

9. A. WHO ORDINARILY PREPARES THE FOOD AT HOME IN THIS COMMUNITY?

1. Mother
2. Mother-in-law
3. Older child
4. Other Women in The House
5. Father
6. Other (specify)_____

[ ] Food Preparation 61

B. DO WOMEN PREPARE FOOD FOR THE FAMILY WHEN THEY ARE MENSTRUATING?

1. Yes_____ 2. No_____ 3. Some Yes, Some No_____

[ ] Food Preparation at Menstruation 62

IF NO OR SOME NO, ASK WHY?_____

[ ] Why 63

10. DO YOU KEEP AT HOME THE FOLLOWING FOODS FOR LATER USE?

		IF YES, HOW?	Store	How
a. Uncooked dry food (eg. staples)	1. Yes___ 2. No___		[ ] 64	[ ] 65
b. Uncooked perishables (eg. animal food, vegetables, fruit)	1. Yes___ 2. No___		[ ] 66	[ ] 67
c. Cooked food (eg. leftovers)	1. Yes___ 2. No___		[ ] 68	[ ] 69
d. Preserved food (eg. dry or smoked fish)	1. Yes___ 2. No___		[ ] 70	[ ] 71

Appendix C (Cont'd.)

11. WHO USUALLY DECIDES WHAT FOODS TO BUY IN YOUR HOUSE?

1. Herself (ie. mother)
2. Husband
3. Mother-in-law
4. Father-in-law
5. Other women in the house
6. Older child
7. Other(specify) _____

[ ] 72 Decision Maker

12. WHAT ARE THE TYPICAL MEALS AND THE FOODS AND DRINKS PEOPLE HAVE IN THEIR MEALS? (List foods eaten for each meal in a row)

Adults and children above 6 years

MEAL NO.	FOODS
1.	
2.	
3.	
4.	

[ ] 73 No. Meals Adults and Children above 6 years.

WHAT TYPICAL FOODS AND DRINKS DO CHILDREN UNDER 6 YEARS HAVE IN THEIR MEALS?

Children 6 years and under

MEAL NO.	FOODS
1.	
2.	
3.	
4.	

[ ] 74 No. Meals Children under 6 years.

13. DO ADULTS AND CHILDREN EAT OR DRINK OTHER FOODS BETWEEN MEALS?

1. Yes _____ 2. No _____

IF YES, WHAT ARE THEY? (List foods)

Adults and Children Above 6 years	Children 6 years and under

[ ] 75 Snacks

[ ] 76 No. Snacks Adults

[ ] 77 No. Snacks Children

14. A. IF PEOPLE HAD MORE MONEY, WHAT FOODS WOULD THEY PREFER TO EAT OR EAT MORE OF?
(List 4 foods in order of preference; after each food, ask why?)

Foods	Why
1.	
2.	
3.	
4.	

B. IF PEOPLE HAD MORE MONEY, WHAT FOODS WILL THEY NOT EAT OR EAT LESS OF?
(List 4 in order of foods reduced or omitted most; after each food, ask why?)

Foods	Why
1.	
2.	
3.	
4.	

15. DO MEMBERS OF THE FAMILY USUALLY SIT DOWN TOGETHER TO EAT A MEAL?

1. Yes____ 2. No____ 3. Sometimes____

IF NO, OR SOMETIMES WHO EATS SEPARATELY?

	Why?
1. Male adults alone; female adults and children.	
2. Male adults and children (male & female); female adults alone.	
3. Male adults and male children: female adults & female children.	
4. Male adults and female adults; children alone.	

[ ] 25 Eat Together

[ ] 26 Eat Separately

[ ] 27 Why

	Food	Why
	9	10
	11	12
	13	14
	15	16

	Foods Not Eaten	Why
	17	18
	19	20
	21	22
	23	24

5. Male adults alone: female adults alone: children alone. _____

6. Any other combination (specify) _____

16. HOW DO MEMBERS OF THE FAMILY EAT FOOD IN THEIR HOUSE?

1. From common pot
2. In separate plates/bowls
3. Both of the above

[ ] Food Eaten 23

17. WHO USUALLY GETS THE MOST VALUED PORTIONS OF FOOD IN THE HOUSE? (Husband, mother ie., respondent, older boys, older girls, children under 6 years, mother-in-law, father-in-law or any other person, specify). List in order of preference and why you allot food in this way.

	Preference	Why
1. _____	[ ] 29	[ ] 30
2. _____	[ ] 31	[ ] 32
3. _____	[ ] 33	[ ] 34
4. _____	[ ] 35	[ ] 36

IF THERE IS A PREGNANT WOMAN IN THE HOUSE, WILL THIS ORDER OF PREFERENCE CHANGE?

1. Yes _____ 2. No _____ [ ] Change if Pregnant Woman 37

IF YES, HOW WILL SHE BE RANKED? Rank _____ [ ] Rank 38

IF THERE IS A BREASTFEEDING WOMAN IN THE HOUSE, WILL THE ORDER OF PREFERENCE CHANGE?

1. Yes _____ 2. No _____ [ ] Change if Breastfeeding Woman 39

IF YES, HOW WILL SHE BE RANKED? Rank _____ [ ] Rank 40

18. DO YOU BOIL YOUR WATER FOR DRINKING?

1. Yes _____ 2. No _____ 3. Sometimes _____ [ ] Boil Water 41

IF NO, OR SOMETIMES, WHY? _____ [ ] Why 42

GENERAL FOOD HABITS AND BELIEFS

19. WHAT ARE THE EVENTS WHEN MEALS OR CERTAIN FOODS ARE RESTRICTED DURING THE YEAR? (List up to 5 events in order of importance) WHAT FOODS ARE RESTRICTED, HOW OFTEN DOES THE EVENT OCCUR? HOW LONG DOES IT LAST, AND WHO AVOIDS THE FOOD?

Event	All Meal or Food Items: Meal	Food 1	Food 2	Food 3	Frequency: Week	Month	Year	Duration Days	Who Avoids
1									
2									
3									
4									
5									

Events	Food	Frequency	Duration	Who Avoids
[ ] 43	[ ] 44	[ ] 45	[ ] 46	[ ] 47
[ ] 48	[ ] 49	[ ] 50	[ ] 51	[ ] 52
[ ] 53	[ ] 54	[ ] 55	[ ] 56	[ ] 57
[ ] 58	[ ] 59	[ ] 60	[ ] 61	[ ] 62
[ ] 63	[ ] 64	[ ] 65	[ ] 66	[ ] 67

IS A PREGNANT WOMAN EXEMPT FROM THESE RESTRICTIONS?

1. Yes _____ 2. No _____ [ ] Pregnant Woman Exempt 68

IF YES, WHY? _____ [ ] Why 69

IS A BREASTFEEDING WOMAN EXEMPT FROM THESE RESTRICTIONS?

1. Yes _____ 2. No _____ [ ] Breastfeeding Woman Exempt 70

IF YES, WHY? _____ [ ] Why 71

ARE CHILDREN UNDER 13 YEARS EXEMPT FROM THESE RESTRICTIONS?

1. Yes _____ 2. No _____ [ ] Children under 13 yrs. Exempt 72

IF YES, WHY? _____ [ ] Why 73

Appendix C (Cont'd.)

13

20. DO PEOPLE IN THIS COMMUNITY AVOID ANY FOODS BECAUSE OF RELIGIOUS TEACHINGS? [ ] Food Avoidances

1. Yes_____ 2. No_____

IF YES, WHAT FOODS DO THEY AVOID AND WHY?
(List up to 4 foods in order of importance)

Foods	Why
1.	
2.	
3.	
4.	

9 Food Avoidance	Why
[ ] 10	[ ] 11
[ ] 12	[ ] 13
[ ] 14	[ ] 15
[ ] 16	[ ] 17

21. DO PEOPLE IN THIS COMMUNITY AVOID ANY FOODS FOR OTHER REASONS? [ ] Other Food Avoidances
(i.e. tribe, caste, ethnic group)

1. Yes_____ 2. No_____

IF YES, WHAT FOODS DO THEY AVOID AND WHY?
(List up to 4 foods in order of importance)

Foods	Why
1.	
2.	
3.	
4.	

13 Foods Avoided	Why
[ ] 19	[ ] 20
[ ] 21	[ ] 22
[ ] 23	[ ] 24
[ ] 25	[ ] 26

22 A. ARE THERE ANY WAYS PEOPLE CLASSIFY FOODS WHICH ARE GOOD OR BAD FOR THEM? [ ] Hot/Cold Beliefs

1. Yes_____ 2. No_____

3. Some Yes, Some No _____

27

14

IF YES, OR SOME YES, HOW DO THEY CLASSIFY THEM?
GIVE 3 IMPORTANT EXAMPLES OF THESE FOODS.

Classification	Definition	Examples
1. Hot & Cold		
2. Wet & Dry		
3. Sweet & Sour		
4. Strength Producing		
5. Gas Producing		
6. Easily digestible/ or not		
7. Blood giving		
8. Other (specify)		

B. (For each of the above classifications mentioned)
ASK: WHO FOLLOWS THEM AND WHEN IS IT FOLLOWED?

CLASSIFICATION	WHO FOLLOWS			WHEN FOLLOWED		
	BY ALL	WOMEN ONLY	CHILDREN ONLY	ALL THE TIME	SEASONAL ONLY	ILLNESS ONLY
1.						
2.						
3.						
4.						
5.						

Definition	Examples		
[ ] 28	[ ] 29	[ ] 30	[ ] 31
[ ] 32	[ ] 33	[ ] 34	[ ] 35
[ ] 36	[ ] 37	[ ] 38	[ ] 39
[ ] 40	[ ] 41	[ ] 42	[ ] 43
[ ] 44	[ ] 45	[ ] 46	[ ] 47
[ ] 48	[ ] 49	[ ] 50	[ ] 51
[ ] 52	[ ] 53	[ ] 54	[ ] 55
[ ] 56	[ ] 57	[ ] 58	[ ] 59

Beliefs	Who Follows	When
[ ] 60	[ ] 61	[ ] 62
[ ] 63	[ ] 64	[ ] 65
[ ] 66	[ ] 67	[ ] 68
[ ] 69	[ ] 70	[ ] 71
[ ] 72	[ ] 73	[ ] 74

23. a. I WOULD LIKE TO KNOW ABOUT OTHER FOOD PRACTICES OF THE COMMUNITY. (First rank up to 5 foods in order of avoidance in each category of people, then go back to each food and get information on why it is bad, when it is avoided, did the mother avoid the food and if not avoided why? Check columns when appropriate or write in response).

ARE THERE ANY FOODS ESPECIALLY BAD FOR:	WHY IS IT BAD?			WHEN AVOIDED?				DO YOU AGREE WITH THIS PRACTICE?			
	Hot	Cold	Other	All Times	Sickness	Season	Other	Yes	No	Not Sure	Other
EVERYONE 1.Yes 2.No If yes, list foods											
1.											
2.											
3.											
4.											
5.											
YOUNG GIRLS BEFORE MENSTRUATION 1.Yes 2.No If yes, list foods				Above 6 yrs.	Early Puberty	Other	Other				
1.											
2.											
3.											
4.											
5.											
FIRST MENSTRUATION 1.Yes 2.No If yes, list foods				During Period	All the Time	Other	Other				
1.											
2.											
3.											
4.											
5.											

EVERYONE 15

YOUNG GIRLS

FIRST MENSTRUATION

Appendix C (Cont'd.)

23 a. cont...

ARE THERE ANY FOODS ESPECIALLY BAD FOR:	WHY IS IT BAD?			WHEN AVOIDED?				DO YOU AGREE WITH THIS PRACTICE?			
	Hot	Cold	Other	During Period	All the Time	Other	Other	Yes	No	Not Sure	Other
LATER MENSTRUATION 1. Yes 2. No If yes, list foods											
1.											
2.											
3.											
4.											
5.											
PREGNANCY 1. Yes 2. No If yes, list foods				Entire Pregnancy	Upto 3rd month	Upto 6th month	6th -9th month				
1.											
2.											
3.											
4.											
5.											
AFTER DELIVERY 1. Yes 2. No If yes, list foods				0-3 Days	0-7 Days	0-15 Days	Other				
1.											
2.											
3.											
4.											
5.											

LATER MENSTRUATION 15: 39 40 41 42 43 44 | 45 46 47 48 49 50 | 51 52 53 54 55 56 | 57 58 59 60 61 62

PREGNANCY: 63 64 65 66 67 68 | 9 10 11 12 13 14 | 15 16 17 18 19 20 | 21 22 23 24 25 26 | 27 28 29 30 31 32

AFTER DELIVERY: 33 34 35 36 37 38 | 39 40 41 42 43 44 | 45 46 47 48 49 50 | 51 52 53 54 55 56 | 57 58 59 60 61 62 | 63 64 65 66 67 68

Appendix C (Cont'd.)

23 a. cont...

ARE THERE ANY FOODS ESPECIALLY BAD FOR:	WHY IS IT BAD? Hot	Cold	Other	WHEN AVOIDED? Entire Breast feeding	1-2 weeks	1st month	Other	DO YOU AGREE WITH THIS PRACTICE? Yes	No	Not Sure	Other
DURING BREASTFEEDING 1.Yes 2.No If yes, list foods											
1.											
2.											
3.											
4.											
5.											
CHILDREN 0-2 Yrs. 1.Yes 2.No If yes, list foods				All Times	Sick-ness	Sea-son	Other				
1.											
2.											
3.											
4.											
5.											
CHILDREN 2-6 Yrs. 1.Yes 2.No If yes, list foods				All Times	Sick-ness	Sea-son	Other				
1.											
2.											
3.											
4.											
5.											

17

BREASTFEEDING

9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐
15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐
21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐
27 ☐ 28 ☐ 29 ☐ 30 ☐ 31 ☐ 32 ☐

CHILDREN 0-2 YRS.

33 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐
39 ☐ 40 ☐ 41 ☐ 42 ☐ 43 ☐ 44 ☐
45 ☐ 46 ☐ 47 ☐ 48 ☐ 49 ☐ 50 ☐
51 ☐ 52 ☐ 53 ☐ 54 ☐ 55 ☐ 56 ☐
57 ☐ 58 ☐ 59 ☐ 60 ☐ 61 ☐ 62 ☐

CHILDREN 2-6 YRS.

63 ☐ 64 ☐ 65 ☐ 66 ☐ 67 ☐ 68 ☐
9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐
15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐
21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐
27 ☐ 28 ☐ 29 ☐ 30 ☐ 31 ☐ 32 ☐
33 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐

Appendix C (Cont'd.)

23 b. NOW, I WOULD LIKE TO KNOW ABOUT THE FOODS WHICH PEOPLE IN THIS COMMUNITY THINK ARE GOOD TO EAT. (First rank up to 5 foods in order of avoidance in each category of people, then go back to each food and get information on why it is good, when is it good, did you eat this food and if not, why? Check columns when appropriate or write in response).

ARE THERE ANY FOODS ESPECIALLY GOOD FOR:	WHY ARE THEY GOOD?			WHEN ARE THEY GOOD?				DO YOU AGREE WITH THIS PRACTICE?			
	Hot	Cold	Other	All Times	Sickness	Season	Other	Yes	No	Not Sure	Other
EVERYONE 1.Yes 2.No If yes, list food											
1.											
2.											
3.											
4.											
5.											
YOUNG GIRLS BEFORE MENSTRUATION 1.Yes 2.No If yes, list foods				Above 6 yrs.	Early Puberty	Other	Other				
1.											
2.											
3.											
4.											
5.											
FIRST MENSTRUATION 1.Yes 2.No If yes, list foods				During Period	All the time	Other	Other				
1.											
2.											
3.											
4.											
5.											

EVERYONE: 39 40 41 42 43 44 / 45 46 47 48 49 50 / 51 52 53 54 55 56 / 57 58 59 60 61 62 / 63 64 65 66 67 68

YOUNG GIRLS: 9 10 11 12 13 14 / 15 16 17 18 19 20 / 21 22 23 24 25 26 / 27 28 29 30 31 32 / 33 34 35 36 37 38

FIRST MENSTRUATION: 39 40 41 42 43 44 / 45 46 47 48 49 50 / 51 52 53 54 55 56 / 57 58 59 60 61 62 / 63 64 65 66 67 68

23. b. cont...

ARE THERE ANY FOODS ESPECIALLY GOOD FOR:	WHY ARE THEY GOOD? Hot	Cold	Other	WHEN ARE THEY GOOD? During Period	All the Time	Other	Other	DO YOU AGREE WITH THIS PRACTICE? Yes	No	Not Sure	Other
LATER MENSTRUATION 1.Yes 2.No If yes,list foods											
1.											
2.											
3.											
4.											
5.											
PREGNANCY 1.Yes 2.No If yes,list foods				Entire Pregnancy	Upto 3rd month	Upto 6th month	6th-9th month				
1.											
2.											
3.											
4.											
5.											
AFTER DELIVERY 1.Yes 2.No If yes,list foods				0-3 Days	0-7 Days	0-15 Days	Other				
1.											
2.											
3.											
4.											
5.											

LATER MENSTRUATION
9 10 11 12 13 14
15 16 17 18 19 20
21 22 23 24 25 26
27 28 29 30 31 32
33 34 35 36 37 38

PREGNANCY
39 40 41 42 43 44
45 46 47 48 49 50
51 52 53 54 55 56
57 58 59 60 61 62
63 64 65 66 67 68

AFTER DELIVERY
9 10 11 12 13 14
15 16 17 18 19 20
21 22 23 24 25 26
27 28 29 30 31 32
33 34 35 36 37 38

19

Appendix C (Cont'd.)

23b. cont...

ARE THERE ANY FOODS ESPECIALLY GOOD FOR:	WHY ARE THEY GOOD?			WHEN ARE THEY GOOD?				DO YOU AGREE WITH THIS PRACTICE?			
	Pot	Cold	Other	Entire Preant-feeding	1-2 weeks	1st month	Other	Yes	No	Not Sure	Other
DURING BREASTFEEDING 1.Yes 2.No If yes, list foods											
1.											
2.											
3.											
4.											
5.											
CHILDREN 0-2 Yrs. 1. Yes 2.No If yes, list foods				All Times	Sick-ness	Sea-son	Other				
1.											
2.											
3.											
4.											
5.											
CHILDREN 2-6 Yrs. 1.Yes 2.No If yes, list foods				All Times	Sick-ness	Sea-son	Other				
1.											
2.											
3.											
4.											
5.											

PRACTICES TWO 20

SPECIAL DIETARY PRACTICES AND BELIEFS FOLLOWED AT PREGNANCY AND AFTER THE BABY IS BORN

24. WHEN A WOMAN IS PREGNANT, HOW MUCH DOES SHE GENERALLY EAT AND DRINK? Why

1. Normal Amounts _____
2. Less than Normal _____ [ ] Quantity of Food
3. More than Normal _____ 9

IF LESS OR MORE THAN NORMAL ASK WHY? [ ] Why 10

25. IF A PREGNANT WOMAN IS NOT FEELING WELL (ie. has fever, colds, coughs, flu, etc.) HOW DOES SHE EAT? (Circle or write in appropriate answer and ask why) Why

1. Fast _____
2. Eat Less _____ [ ] Food Intake During Sickness
3. Drink medicinal teas but try to eat normally _____ 11
4. Drink medicinal teas and eat less _____ [ ] Why 12
5. Try to eat normally _____
6. Other (specify) _____

26. IS A MOTHER GIVEN FOOD RIGHT AFTER HER BABY IS BORN?

1. Yes_____ 2. No_____ [ ] Food After Delivery 13

IF NO, ASK: FOR HOW LONG IS NO FOOD GIVEN? WHY?

For How Long? Why [ ] How Long 14

_____ _____ [ ] Why 15

27. WHO USUALLY TEACHES THE MOTHER HOW TO EAT WHEN SHE IS PREGNANT OR BREASTFEEDING HER CHILD?

1. Herself (ie. watched others)
2. Mother
3. Mother-in-law
4. Older women
5. Other mothers
6. Health worker
7. Local curer [ ] Source of Advice 16
8. Other (specify)_____

23

SPECIAL BELIEFS AND PRACTICES FOLLOWED DURING BREASTFEEDING

I WOULD NOW LIKE TO ASK WHAT WOMEN EAT WHEN BREASTFEEDING

23. WHEN A WOMAN IS BREASTFEEDING, HOW MUCH DOES SHE GENERALLY EAT AND DRINK?

Why

1. Normal Amounts _____ [ ] 17 — Quantity of Food
2. Less than Normal _____
3. More than Normal _____ [ ] 18 — Why

IF LESS OR MORE THAN NORMAL ASK WHY?

29. WHAT DOES A BREASTFEEDING MOTHER EAT, WHEN THE BABY IS NOT FEELING WELL?
(ie. has Fever, loose stools, or has some other illness or vomits)

1. Reduce her food intake so that she does not harm the infant.
2. Eat special foods or herbs so that these will pass through the milk to the infant. Specify foods and why it is good. _____ [ ] 19 — Mother's Food Intake When Baby is Ill
3. Stop eating certain foods. Specify foods and why it is bad. _____
4. Other (specify) _____
5. Nothing

30. DO MOTHERS BREAST FEED THE BABIES WHEN THEY, ie. THE MOTHERS ARE SICK?
A. (Circle appropriate response and ask why)

Why

1. No _____ [ ] 20 — Breastfeeding When Mother is Ill
2. Someone else breast feeds baby _____ [ ] 21 — Why
3. Yes-normal amount _____
4. Yes-less than normal _____

24

B. DO MOTHERS BREASTFEED THE BABIES WHEN THE BABIES ARE SICK?

Why

1. No _____ [ ] 22 — Breastfeeding When Baby is Ill
2. Yes-normal amounts _____ [ ] 23 — Why
3. Yes-less than normal _____

IF NO, WHAT FOOD IS USUALLY FED INSTEAD? [ ] 24 — Food Fed to Child

_____

31. HOW LONG DOES A MOTHER BREASTFEED HER CHILD?

Event/Sign/Age in months [ ] 25 — Length of Breastfed (age in months)

_____

32. HOW DOES A MOTHER STOP BREASTFEEDING HER CHILD?
(Check all appropriate answers)

1. Introduce other foods gradually
2. Introduce other foods abruptly [ ] 26 — Method of Stopping Breast-feeding a Child
3. Send the child away to live with relative/friend
4. Apply bitter or sour tasting substance on the breast
5. Resort to other punishable methods
6. Discourage by pushing away the child gently
7. Mother or child is sick
8. Other (specify) _____

33. WHY DOES A MOTHER USUALLY STOP BREASTFEEDING THE CHILD? (Check all appropriate answers)

1. Resume sexual relations
2. New pregnancy
3. Give birth to another baby
4. Illness of child
5. Mother works
6. Illness of mother
7. Death of mother
8. Did not have enough milk
9. Mother's figure
10. Child eats other foods
11. Muslim teaching
12. Child old enough to eat solids
13. Child refuses breast
14. Milk makes baby sick (eg. stomach pains)
15. Difficult to suck for the baby (low birth weight)
16. Prefer commercial milk
17. Easier to feed commercial milk
18. Embarrassing to breastfeed
19. Health Worker's advice
20. Local curer's advice
21. Other(specify)_____

27 28	Reason for stopping breastfeeding
29 30	Reason for stopping breastfeeding
31 32	Reason for stopping breastfeeding
33 34	Reason for stopping breastfeeding
35 36	Reason for stopping breastfeeding

SPECIAL BELIEFS AND PRACTICES FOLLOWED FOR INFANT FEEDING

I WOULD LIKE TO KNOW HOW VERY YOUNG CHILDREN ARE FED UNTIL THEY ARE OLD ENOUGH TO EAT ADULT FOODS.

34. WHAT IS USUALLY GIVEN TO A CHILD BY MOUTH, RIGHT AFTER BIRTH?
(List up to 3 important foods)

Food	No. of hours after birth	Why	Food	No. of hours	Why
1.			37	38 39	40
2.			41	42 43	44
3.			45	46 47	48

35. DOES THE MOTHER GIVE THE BREAST TO THE BABY AS SOON AS THE BABY IS BORN?

1. Yes_____ 2. No_____ 3. Some Yes, Some No_____

IF YES OR NO, OR SOME YES, SOME NO, ASK WHY?_____

IF NO, WHEN DID YOU FIRST PUT THE CHILD TO BREAST?

After_____HOURS Why?_____

36. DO MOTHERS FEED THEIR CHILDREN WITH A BOTTLE?

1. Yes_____ 2. No_____ 3. Some Yes, Some No_____

IF YES, OR SOME YES, AT WHAT AGE IS THE BOTTLE GIVEN?

(Age in months)_____ Why?_____

WHAT FOODS ARE FED THROUGH THE BOTTLE? (List) _____

IF MILK IS MENTIONED, IS THIS USUALLY:

1. Evaporated,Dry,Condensed 2. Fresh

37. IF MOTHERS HAVE NO MILK, OR DO NOT WANT TO BREASTFEED HOW DO THEY GENERALLY FEED THE INFANT?

1. Wet Nurse _____
2. Bottle feed _____
3. Other (specify) _____

49	Breastfeed immediately
50	Why
51	Breastfeed No. Hours
52	Age in Months Bottlefeeding
53	Why
54	Type of Milk
55	Substitute for Mother's milk

38. WHEN DO MOTHERS START INTRODUCING FOODS, OTHER THAN BREASTMILK TO THE CHILD?

Event/Sign/Age,(months) Why

_____ _____

Age in Months Introduce Solids (56 57)

Why (59)

39. WHAT ARE THE FIRST FOODS OTHER THAN BREASTMILK, FED TO THE CHILD?
(List 5 important foods, ask for each food)
HOW ARE THEY PREPARED? AT WHAT AGE ARE THEY GIVEN AND WHY ARE THESE PARTICULAR FOODS GIVEN?

Food	Preparation (special for infant)	Age (months) Introduced	Why are these foods given?
1.			
2.			
3.			
4.			
5.			

Food	Preparation	Age(months)	Why
(59)	(60)	(61)	(62)
(63)	(64)	(65)	(66)
(67)	(68)	(69)	(70)
(71)	(72)	(73)	(74)

40. AT WHAT AGE CAN CHILDREN EAT ADULT FOOD WITHOUT ANY SPECIAL PREPARATION?

Event/ Sign/Age(months) Why

_____ _____

(75 76 77 73) Age (months) Adult Food

Why (9)

41. WHO GENERALLY FEEDS THE CHILD WHEN THE CHILD IS NO LONGER BREASTFED? Why

1. Mother _____
2. Grandmother _____
3. Older child _____
4. Other woman in the house _____
5. Father _____
6. Other (specify) _____

Feeds Child (10)

Why (11)

Why (12)

42. WHO USUALLY TELLS THE MOTHERS HOW TO FEED THE CHILD?

1. No one
2. Mother's mother
3. Mother-in-law
4. Health worker (doctor,nurse,midwife)
5. Local curer
6. Older women
7. Other mothers
8. Seeing other women
9. Husband
10. Father
11. Other(specify) _____

Source of Advice (13 14)

43. DO MOTHERS CLEAN CHILDREN'S BOWELS?

1. Yes____ 2. No____ 3. Some Yes____ Some No____

Clean Bowels (15)

IF YES OR SOME YES, WHEN DO THEY DO THIS AND WHY?

Why

1. When Born _____
2. When child has fever _____
3. When child has diarrhea _____
4. When child has constipation _____
5. When born and when child has fever _____
6. When born and when child has diarrhea _____

When Bowels Cleaned (16 17)

Why (18 19)

Why

7. When born and when child has constipation _____

8. When child has fever and diarrhea _____

9. When child has fever and constipation _____

10. When born and when child has fever and diarrhea _____

11. When born, and when child has fever and constipation _____

12. Other (specify) _____

44. I AM GOING TO NAME A FEW ILLNESSES. PLEASE TELL ME IF IT COMMONLY AFFECTS CHILDREN IN THIS COMMUNITY? IF IT VARIES BY SEASON? HOW IS IT TREATED AND WHY THIS TREATMENT IS USED?

Illness	Affects Child	Season (specify)	Treatment	Why this Treatment
Diarrhea, vomiting (more than once a week)	Yes___No___			
Fever (more than once a month)	Yes___No___			
Colds, Sore throats (more than once a week)	Yes___No___			
Worms	Yes___No___			

Affects Child	Season	Treatment	Why
[ ]	[ ]	[ ][ ]	[ ][ ]
20	21	22 23	24 25
[ ]	[ ]	[ ][ ]	[ ][ ]
26	27	28 29	30 31
[ ]	[ ]	[ ][ ]	[ ][ ]
32	33	34 35	36 37
[ ]	[ ]	[ ][ ]	[ ][ ]
38	39	40 41	42 43

TREATMENT

1. Clean bowels
2. Give herbs
3. Restrict foods(specify) _____
4. Restrict water and other fluids
5. Give extra fluids
6. Give special foods(specify) _____
7. Seek help from local curer
8. Seek medical help/give medication
9. Other(specify) _____

45. WE HAVE JUST DISCUSSED THE FOOD HABITS IN YOUR COMMUNITY. DO YOU THINK ANY OF THESE ARE HARMFUL TO THE HEALTH OF THE PEOPLE IN THE COMMUNITY? WHAT ARE THEY? WHY ARE THEY HARMFUL? HOW WOULD YOU CHANGE IT?

	Harmful Food Habit	Why Harmful	How Would You Change It	Harmful Food Habit	Why	How Changed
1.				44 45	46	47
2.				48 49	50	51
3.				52 53	54	55
4.				56 57	58	59
5.				60 61	62	63
6.				64 65	66	67
7.				68 69	70	71
8.				72 73	74	75

VII. GLOSSARY

Achita	Type of cereal indigenous to Peru.
Achote	Indigenous Guatemalan cereal.
Aguardiente	Alcoholic beverage made from sugarcane.
Ahuyama	Indigenous Colombian vegetable, similar to yellow squash.
Aldeas	Small scattered communities.
Alimento	Nutritious food.
Arahar	A variety of Legume.
Arepa	Indigenous Bread prepared in Colombia, and made from corn. Wheat is sometimes used in its preparation.
Arracacha	Indigenous Colombian vegetable.
Arum	Succulent Root similar to cassava.
Ata	Wheat flour
Atole	Cereal drink.
Auquenido	A type of sea food.
Aymara	Group of Indians in Peru and Bolivia. The language spoken by these people is also called Aymara.
Baklava	A sweet pastry.
Beaf	A variety of fish in Bangladesh.
Bel	Wood apple, a fruit used for making sharbat.
Berro	Watercress.
Blackgram	A variety of Legume.
Boal	Large fresh water fish, not as bony as Hilsa.

Glossary

Bonito	Type of fish eaten in Peru.
Borugo	A large lizard, found in Colombia, and important as food in its native habitat.
Brinjal	Eggplant.
Cacao	The dried partly fermented fatty seeds of the cacao plant used in making cocoa, chocolate, and cocoa butter.
Cachina	A type of liquor consumed in Peru.
Canihua	Indigenous Peruvian cereal.
Chapatis	Indigenous bread prepared in Bangladesh.
Chayote	A type of squash.
Chetal/Chital	Large fresh water fish, less bony than Hilsa.
Chicha	Fermented beverage consumed in Peru, Colombia and Guatemala, made from corn or sugarcane.
Chili Peppers	Hot peppers.
Chirimoya	A fruit.
Chochoca	Indigenous Peruvian cereal.
Chontaduro	A fruit.
Chuño	A small freeze-dried grey or white potato, indigenous to the Andes region.
"Cold" Foods	An intrinsic quality ascribed to food and generally defined as being cooling to the body when consumed
Couscous	A type of pasta made from semolina wheat.
Cow Dung	Cow excrement that, when dried, is used as fuel for cooking.
Cuchuco	Indigenous Colombian cereal.
Curds	The thick casein-rich part of coagulated milk.

Glossary

Garbanzo	Chick Peas.
Ghee	Clarified Butter.
Gola/Dol	Wicker basket used in Bangladesh.
Gourd	Any of a family of chiefly herbaceous tendril-bearing vines including the cucumber, melon, squash, and pumpkin.
Green Banana	(Plantain) - the angular greenish starchy fruit of the plantain that is a staple food in the tropics when cooked.
Guarapo	A fermented alcoholic beverage, usually made from corn or sugarcane.
Guayaba	(Guava) - the fruit of a guava tree, widely cultivated for its sweet acid yellow fruit.
Halvah	(Halwah) - a flaky confection of crushed sesame seeds in a syrup/honey base.
Harissa	Hot pepper sauce.
Hilsa	Large bony river fish.
"Hot" Food	An intrinsic quality ascribed to food and generally defined as heat-producing when consumed, and believed to have health-giving properties.
Incaparina	A nutritious corn and soya base product consumed in Guatemala.
Jackfruit	Fruit of a widely cultivated tropical tree, related to the breadfruit.
Katal	Large bony fresh water fish.
Khesari	A variety of the legume family consumed in Bangladesh.
Koi	A small bony fresh water fish consumed in Bangladesh.

Glossary

Leban	A semi-solid curdled milk mixture.
Lebaneh	A milk preparation in which part of the whey is removed.
Limonaria Tea	Herb tea.
Lisa	Type of fish eaten in Peru.
Llama	Any of several wild and domesticated South American ruminants, related to the camels but smaller and without a hump.
Lupine	Type of legume consumed in Peru.
Magur	A small bony fresh water fish, low in fat content, consumed in Bangladesh.
Mais (Maize)	Corn.
Masato	An alcoholic fermented beverage made from a corn or sugar base, consumed in Colombia.
Mate	Herbal tea infusions.
Mazamorras	A type of corn soup.
Mestizo	Indian-Spanish mixed ethnic group.
M'hamsa	A cereal product consumed in Tunisia.
Milo	A cereal grain.
Mregal	A large bony fresh water fish consumed in Bangladesh.
Mulatto	A Black-Caucasian mixed ethnic group.
Non-Indian	Accultured Indians of mixed heritage in Guatemala.
Oca	A starchy vegetable consumed in Peru.
Olluco	A starchy vegetable, similar to the potato, consumed in Peru.

Glossary

Pallares	A type of legume consumed in Peru.
Panela	Brown sugar.
Paratha	Indigenous Bengali bread made from wheat flour.
Passion Fruit	A tropical fruit.
Plantain	See "Green Banana."
Promotora	Health worker.
Prickly Pear	The pulpy pear-shaped edible fruit of the genus "Opuntia" of cacti.
Quechua	A group of peoples constituting the dominant element of the Inca Empire. The language of the Quechua people is also called Quechua.
Quinoa	An indigenous Peruvian cereal.
Roi	A large fresh water fish, less bony than Hilsa, consumed in Bangladesh.
Sago	A dry, granulated or powdered starch prepared from the pith of a sago palm and used in foods.
Sharbat	Citrus fruit drink consumed in Bangladesh.
Shing	Small bony fresh water fish consumed in Bangladesh.
S'men	Clarified butter.
Snack	Is defined, for the purpose of this study, as any food item consumed between meals.
Star Apple	The apple-shaped edible fruit of a tropical American tree.
"Strong" Food	An intrinsic quality ascribed to food, and generally defined as strengthening when consumed.

Glossary

Thanas	Administrative precincts in Bangladesh.
Tinajo	A large lizard, found in Colombia, and important as food in its native habitat.
Tortilla	Flat bread made from maize or wheat flour.
Ullaco	A starchy root consumed in Colombia.
Vereda	A village (Colombia).
"Weak" Food	An intrinsic quality ascribed to food, generally defined as having a weakening effect on the body when consumed.
Yam	The moist fleshed and usually orange colored sweet potato.
Yerba Luisa	An aromatic plant.
Yucca	Cassava.

THE WORLD OF CARE

CARE is the work of many hands. Its accomplishments over the years have been made possible by the public support of millions of people - Americans, Canadians, Europeans and others - who give freely of their money, talent and time. Emerging during post World War II (November 27, 1945), CARE is now one of the world's largest non-sectarian, non-governmental, non-profit, international voluntary disaster relief and development agencies. It presently operates in 35 countries in Asia, Africa, Latin America and the Middle East. CARE's role in disaster relief includes meeting immediate needs as well as reconstruction, rehabilitation and development. CARE provides supplemental foods to preschool and school children, pregnant and lactating mothers and workers on agricultural development projects. Using its feeding programs as a base, CARE is increasingly adding a wide variety of tools and knowledge to expand the investment made in food itself. In addition to feeding, CARE's nutrition programming includes: education, surveys and applied research, processing and preservation of foods, development of local weaning mixes and Vitamin A, blindness prevention. Child nutrition and health are central to CARE development programs.

PROCESS ACTION DATES INITIALS
CATALOGUE 1656
ABSTRACT ARDA
FICHE RANDD
COMMENTS: